

APPENDIX N

Agency Consultation

Contents

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Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
General - Definition	15-Apr-11	Asked for clarification of the "run-of-river" definition being "no man-made downstream effects".	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
General - Definition	15-Apr-11	Asked about the selection of the definition/boundaries of the seasons. Why is boundary between winter and spring on falling limb of spring melt?	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Class EA - Hydraulic Modelling	15-Apr-11	Asked about the variability shown in the hydrograph.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	15-Apr-11	Asked what modeling is being done and how is the field data being used to validate.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	15-Apr-11	Advised there is a PHD thesis paper written on lake level modeling, etc. (Provided a copy of the paper during a meeting intermission.)	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Aquatic Ecosystem	15-Apr-11	Asked what the split was between close coupled and bypass arrangements for the eighteen projects. Questioning the differences in habitat effects/loss when riffles become ponds, etc.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4, 11.4, and 12.4
Aquatic Ecosystem	15-Apr-11	Asked how many sites will have both the close coupled and the bypass concepts brought through the EA process and whether sufficient biological information would be provided for both.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4, 11.4, and 12.4
Design - Water Flow	15-Apr-11	Asked about minimum turbine flow, when/how will it be determined, and how is habitat considered.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
General - Definition	15-Apr-11	Asked about "zone of influence" and terminology standardization was again discussed.	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
General - Definition	15-Apr-11	Indicated that, to him, "modified run of river" seems to be the same as 'peaking'.	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Class EA - Hydraulic Modelling	15-Apr-11	Asked if Xeneca plans to field truth simulations, confirm model and gather pictorial representation of the actual condition for given lines on a plan?	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Design - Water Flow	15-Apr-11	Spatial interpolation approach used?	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Water Flow	15-Apr-11	Discriminate function analysis done?	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Water Flow	15-Apr-11	Flow record periods used?	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Water Flow	15-Apr-11	Were older flow records looked at from a climate change/different flow regime perspective?	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Water Flow	15-Apr-11	Were rainfall runoff models run to fit into data and account for possible uncertainty of river flow records?	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D

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Design - Water Flow	15-Apr-11	Were flows monitored at site used in models?	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Class EA - Hydraulic Modelling	15-Apr-11	How about the progress for the LiDAR data tied in to geodetic?	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	15-Apr-11	Asked whether the estimated HEC-RAS river cross section data used upstream of project could be used for downstream erosion modeling, etc.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
General Comments	15-Apr-11	Request a project summary sheet for each site.	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
LRU - Water Management Plan	15-Apr-11	Mentioned EA, LRIA Section 14 requirements. Expectation is that flows and levels are being reviewed/discussed during the EA process. EA flow/level discussions will form the basis for LRIA/location approval/WMP discussion. Also, Operating Plans are meant to be dropped into WMPs.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.8, 11.6.8 and 12.6.8
General - Information Request	15-Apr-11	Discussed MNR triage/review time process and wanted to know from Xeneca which projects/timing is required to get workload and process resolved.	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Project Permitting	15-Apr-11	Added that location approval could be difficult if design not finalized.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Class EA - Category	19-Apr-11	Led debate as to what is a managed and unmanaged waterway. These projects are considered to be on managed waterways based on the OWA Class EA as the water body is part of a water management plan and there is an existing structure on the river; the Ivanhoe Dam. The MNR would prefer it to be classified as unmanaged due to the distance from the existing MNR dam(s) to the project sites, only minimal changes will be noted and it will be difficult to measure flow changes. OEL (TS) suggested this discussion be deferred to the Operating Plan meeting scheduled for the end of April.	This version of the Draft ER was withdrawn; the comment no longer applies.	1.3
Class EA Process	19-Apr-11	Noted that further discussion needs to take place to determine which transmission route would be reviewed under the Waterpower Class EA and which route may be assessed under the RSFD Class EA. The processes can be harmonized, but further discussion will need to take place to determine how the consultation and evaluation components can be merged.	This version of the Draft ER was withdrawn; the comment no longer applies.	2
Class EA - Supporting Facilities	19-Apr-11	Mentioned that in order to initiate the RSFD Class EA for the Chute transmission line, the district would need to receive a formal request for all the required permits and approvals (easement, work permits, forest resource license, etc.) along with a formal project description. Mentioned that the district would be willing to assist Xeneca with this application if required.	This version of the Draft ER was withdrawn; the comment no longer applies.	4 and 5
Stakeholder Consultation - Part II Order	19-Apr-11	Stated that there remains a public consultation requirement to present the findings of these investigations which could otherwise lead to a Part II order request.	This version of the Draft ER was withdrawn; the comment no longer applies.	2.2

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Stakeholder Consultation	19-Apr-11	Additional engagement was needed along with consultation plans.	This version of the Draft ER was withdrawn; the comment no longer applies.	17
Public Consultation	19-Apr-11	Requested additional Public Information Centres (PIC) in Timmins, Chapleau and Foleyet.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.3
Public Consultation	19-Apr-11	Will provide advice on which newspapers to advertise in and when	This version of the Draft ER was withdrawn; the comment no longer applies.	17.3
Public Consultation	19-Apr-11	Suggested a two-week minimum notice for Public Information Centres to ensure an accurate representation of the local and seasonal population.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.3
Public Consultation	19-Apr-11	Stated that they were present at the two PIC's held on January 13th and 27th and that the project details seemed to be very limited. MNR was concerned that the information available may not be considered adequate in terms of public consultation requirements.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.3
Stakeholder Consultation	19-Apr-11	Inquired as to the status of road upgrades as none have been mentioned to date with respect to the Third Falls project description. For both sites, all road construction, road upgrades, water crossings, and transmission routes must be addressed through the Waterpower Class EA and also require public consultation. (Exception may be the transmission corridor for the Chutes which may be addressed through the RSFD Class EA as discussed above)	This version of the Draft ER was withdrawn; the comment no longer applies.	17
Aboriginal Consultation	19-Apr-11	Noted that the Mattagami First Nation should also be included in the aboriginal consultation process along with Moose Cree First Nation and the Michipicoten First Nation.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.4
Aboriginal Consultation	19-Apr-11	Asked if there was any documentation confirming which First Nations had agreed to be represented by the Wabun Tribal Council.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.4

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Theme	Date	Comment	Response	Section
Aboriginal Consultation	19-Apr-11	Stated that this documentation (confirming which First Nations had agreed to be represented by the Wabun Tribal Council) was critical to meet consultation requirements and that some of the identified communities have expressed a lack of engagement with Xeneca.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.4
Project Permitting	19-Apr-11	Stated that the Potential Approvals List provided in the project description was likely insufficient.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Project Permitting	19-Apr-11	Mentioned that the project descriptions, as drafted, did not contain enough detailed information for MNR to make a proper assessment as to the required permits and approvals.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Design - Project Description	19-Apr-11	<p>MNR requires more detailed information on almost all aspects of the project from set-up and construction to operation. [For example, which access roads need to be upgraded? Do any new roads need to be built? Where? To what standard? (ideally 1:20,000 scale mapping of new roads and road upgrades is required) Are any new water crossings planned? Any upgrades to existing water crossings? Where? (again, 1:20,000 scale mapping required) Will the proponent require clearing for construction set-up? If so, where and how large of an area? Where will the transmission line run? (1:20,00 scale mapping required) Will any access roads or water crossings need to be built or upgraded along the transmission corridor etc.? All this needs to be addressed up front if the proponent wishes to incorporate all EA review requirements into their Waterpower Class EA. If this is not done satisfactorily, additional review and consultation may be required beyond the Waterpower Class EA]</p> <p>Ministries and Agencies present confirmed they would provide the project team with information for applications and the supporting documentation requirements once more detailed project information has been provided.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6
Project Permitting	19-Apr-11	Stated that operations of the Ivanhoe Dam will not likely be altered in support of this project. However, as per the provisions of the Mattagami Water Management Plan, the proponent does have the ability to request an amendment to that plan to request a change in the operations of the Ivanhoe Dam. The request will be reviewed by the Mattagami WMP Standing Advisory Committee and if acceptable, may require further analysis and/or public and Aboriginal consultation. However, based on a preliminary consideration of this, it is unlikely that MNR would support such a request.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Natural Environment - Natural Heritage	19-Apr-11	It was agreed that the MNR Site Information Package (SIP) will act as a living document containing natural heritage values and concerns for the project area and the project team will be notified of any changes during the course of the project.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4.8, 11.4.8 and 12.4.8

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Class EA - Baseline Survey	19-Apr-11	Requested a work plan from the NRSI biologists in order to improve the data acquisition during upcoming field investigations as it was noted that the 2010 data would not satisfy the EA requirements.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Construction Waste	19-Apr-11	Suggested that the proponent investigate alternatives for waste disposal since the local landfill does not have the capacity to accept the project's construction waste.	This version of the Draft ER was withdrawn; the comment no longer applies.	4.2.4 and 5.2.4
Design - Project Description	19-Apr-11	Inquired as to whether the project description would be revised and re-issued, noting the Ministry had some concerns about the content of the document and the process being followed. MNR would provide comment on the PD's within the following few weeks.	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6
Project Permitting	19-Apr-11	Stated that MNR (TM) had been contacted directly by Xeneca regarding permits and approvals for geotechnical work and would like clarification as to whether this will be included in the Waterpower Class EA or if it is separate. If it is separate, it may trigger the RSFDP Class EA. Additional clarification regarding plans to conduct geotechnical work is required from Xeneca before any permits and approvals for this work can be issued.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Project Permitting	19-Apr-11	RSFDP EA requirement for dispositions may be embedded into the Waterpower Class EA, however, proponent must demonstrate that they have complied with all applicable EA obligations.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Project Permitting	19-Apr-11	Mining tenure considerations: Lands under mineral rights tenure issued under Mining Act must be respected. For any such lands, MNR will require consent for the disposition of surface rights or otherwise obtain the mining tenure holder's written approval.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Project Permitting	19-Apr-11	All registered documents require approved survey (lease, easement).	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Project Permitting	19-Apr-11	MNR retains decision-making/ approval authority for all dispositions regardless of a project's authorization under the EA Act.	This version of the Draft ER was withdrawn; the comment no longer applies.	7

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Project Description	19-Apr-11	Require detailed information regarding project design (location, timing, pre-construction, during construction, and post construction). Currently, the project description (PD) does not provide this information in enough detail for MNR to scope all of the permit requirements.	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6
Project Permitting	19-Apr-11	Location approval may also require specifics of local habitat compensation.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Project Permitting	19-Apr-11	If Crown material (sand, gravel) is required for any construction, operation, maintenance activities, then additional permits and EA considerations may be required. Permits and approvals for a "Greenfield" site may take up to one year, possibly longer.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Design - Aggregate	19-Apr-11	If Xeneca plans to source aggregates from a third party, then that material must come from an approved Category 9 aggregate pit. The holder of the Cat 9 pays royalties to the Crown on the material used, and then charges a commercial rate to the customer. PD does not address location of commercial aggregate sources.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix C
Project Permitting	19-Apr-11	Permits and Approvals – Water Mgmt Plan (Sec 23.1 LRIA) Ivanhoe River is managed waterway in accordance with an approved WMP – Mattagami River System WMP. Section 23.1 approval for water management planning may be embedded within the EA process. Detailed information must be provided within the project descriptions (Public Information Displays) and the Environmental Report to meet this requirement. Water Mgmt Plan must include at a minimum: 1) Description of the zone of influence; 2) Water management objectives for the zone of influence; 3) Development and evaluation of options related to flows and levels; 4) The flows and levels under normal operating conditions for the proposed project. Recommend that Xeneca initiate conversations with the Mattagami Standing Advisory Committee ASAP and provide them a PD as per our SIP meeting Jan 26th 2011 – revise PD to provide details as to the requirements needed to fulfill 23.1 approval and include any pertinent details provided by the SAC.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
LRU - Protected Areas	19-Apr-11	Two protected areas are located downstream of the Chute and Third Falls: 1) The Northern Claybelt Conservation Reserve and 2) the Groundhog River P.P. Depending on nature of flow manipulations, both sites (the Northern Claybelt Conservation Reserve and the Groundhog River P.P) may be affected.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.6, 11.6.6 and 12.6.6

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Project Permitting	19-Apr-11	<p>PPCRA 16(2) – Prohibits generation of hydro electric development within a park or Conservation Reserve (CR). Some exceptions, but none apply to these two sites. No tenure or rights for flooding (both up and downstream) will be provided within the CR or park.</p> <p>Flooding and/or erosion not permitted in the following two protected areas located downstream of the Chute and Third Falls: 1) The Northern Claybelt Conservation Reserve and 2) the Groundhog River P.P</p> <p>Flooding beyond normal conditions will be determined via Inflow Design Flood (IDF) modeling, which will be required as part of the EA and prior to LRIA approvals</p> <p>Under no circumstances will any ecological impacts on either the CR or Park be acceptable (ecological integrity embedded in PPCRA legislation).</p> <p>Proponent must fully characterize baseline conditions and be able to demonstrate that there will be no short or long term changes to the natural processes within the terrestrial and aquatic systems within the Conservation Reserve and park.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Project Permitting	19-Apr-11	Special permits and approvals required under ESA for any impacts to threatened, vulnerable, or endangered species (17.2c). At this time, MNR has no element occurrences of VTE species within the proposed waterpower developments at the Chute and Third Falls. However, additional field investigations may potentially identify such species and additional permitting requirements may apply.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Project Permitting	19-Apr-11	All development and construction must adhere to the FFPA legislation and associated regulations.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Project Permitting	19-Apr-11	Land clearing or other works performed under the Crown Forest Sustainability Act (overlapping license) must be compliant with the Modified Industrial Operations Protocol – a copy of this document will be provided to Xeneca.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Agency Consultation	19-Apr-11	Additional comments and/or concerns will be added to the SIP as further detailed site information becomes available. (i.e. site design, operation, alternative chosen for Third Falls). The SIP, as a living document, will act a central repository for MNR EA comments as the process moves forward.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.5

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Social and Economic - General	19-Apr-11	<p>Some of the more prominent values/ concerns that have been identified to date include:</p> <p>Social/Culture:</p> <ul style="list-style-type: none"> - Aboriginal concerns regarding the maintenance of ecosystem function - Use of river as a traditional travel corridor - Use of river as a recreational canoe route (incl. portages) - Potential disturbance of unidentified Cultural heritage resources (MTC to address) - Access points boat launches, roads, and trails to both sites - Sites used for many years for fishing, hunting, camping, viewing (falls aesthetic value), nature appreciation, etc. <p>Economic:</p> <ul style="list-style-type: none"> - Forest resources - Use of existing roads and trails, and bridges (resource extraction) - Long est. use by outfitters (fishing, hunting, aesthetics). Current information regarding magnitude of use and impact on local businesses - Existing mining tenure (3rd Falls) - Existing trapping, baitfish harvesting 	This version of the Draft ER was withdrawn; the comment no longer applies.	9.7, 11.7 and 12.7
Class EA - Cumulative Effects	19-Apr-11	<p>Concern for the potential negative cumulative effects associated with both developments.</p> <p>This item needs further development in order to inform the MNR that location approval will not contradict established policies.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	13
Aquatic Ecosystem - Fisheries	19-Apr-11	<p>Negative impacts of proposed development/operation on the potential population of a SC species (Sturgeon).</p> <p>This item needs further development in order to inform the MNR that location approval will not contradict established policies.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4.3, 11.4.3 and 12.4.3
Aquatic Ecosystem	19-Apr-11	<p>Negative impacts of proposed development/operation on the ecological Integrity of the Zone of Influence (ZOI).</p> <p>This item needs further development in order to inform the MNR that location approval will not contradict established policies.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4, 11.4, and 12.4
Aquatic Ecosystem	19-Apr-11	<p>What will be the impact of the proposed development construction/operation on the ecological function of tributaries – including benthic production, critical habitat areas and native biodiversity within the ZOI?</p> <p>This item needs further development in order to inform the MNR that location approval will not contradict established policies.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4, 11.4, and 12.4
Aquatic Ecosystem	19-Apr-11	<p>Potential for negative impacts of construction/operation on the biodiversity of terrestrial/aquatic communities. A desired outcome would be maintenance of existing species assemblages for those fish and process reliant on these areas for production.</p> <p>This item needs further development in order to inform the MNR that location approval will not contradict established policies.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4, 11.4, and 12.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Aquatic Ecosystem - Water Temperature	19-Apr-11	Potential for alteration to the thermal regime in the river as a result of construction/operation of the proposed facility. This item needs further development in order to inform the MNR that location approval will not contradict established policies.	This version of the Draft ER was withdrawn; the comment no longer applies.	11.2.4 and 12.2.4
Aquatic Ecosystem - Shoreline	19-Apr-11	Riparian community (amphibians, mammals, vegetative community) – maintenance of biodiversity and existing habitat – potential for negative impacts as a result of construction/operation of the proposed facility. This item needs further development in order to inform the MNR that location approval will not contradict established policies.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4.6, 11.4.6 and 12.4.6
Aquatic Ecosystem	19-Apr-11	Potential impacts of construction/operation of the proposed facility on the ecological integrity of downstream Conservation Reserve and Park – especially as it pertains to SC sturgeon population in Ivanhoe/Groundhog confluence. This item needs further development in order to inform the MNR that location approval will not contradict established policies.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4, 11.4, and 12.4
Aquatic Ecosystem	19-Apr-11	Preservation of the natural amenities of sites (shoreline, channel, etc.) during and after construction of the proposed development. This item needs further development in order to inform the MNR that location approval will not contradict established policies.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4, 11.4, and 12.4
Aquatic Ecosystem - Fish Habitat	19-Apr-11	Construction/operation of the proposed facility will require the protection of significant habitat areas – loss of MAFAs, beaver slide, otter slides, etc. – strongly impacted by inundation – Significant habitat This item needs further development in order to inform the MNR that location approval will not contradict established policies.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4.1, 11.4.1 and 12.4.1
Design - Project Description	19-Apr-11	There are some specific information requirements in addition to those referenced in the preceding sections of these meeting minutes. They include: Transmission line/corridor <ul style="list-style-type: none"> • MNR will require further detailed information with respect to the proposed construction and location of the require transmission lines • Current mapping is inadequate: too large scale and information missing (entire route not shown) • May be several values impacted: Current data only shows one route. Recommend that Xeneca consider alternative to avoid delays in the permitting and approval process. • Current routing shows overlap with both CRs (Vimy CR/ Nova CR) and Park (Groundhog). 	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6
LRU - Protected Areas	19-Apr-11	Protected area policy allows consideration of utility crossings, but only where there are no reasonable alternatives. Xeneca must demonstrate that they have considered alternatives and why other alternatives are not feasible.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.6, 11.6.6 and 12.6.6

Ministry of Natural Resources (MNR)				Report Reference
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Class EA - Baseline Survey	19-Apr-11	<p>Ensure that appropriate flow metrics data is being used in all flow data analysis. The original applications used data that had been pro-rated from another managed waterway of similar size. Flow data in the project descriptions is not referenced.</p> <p>The Ivanhoe River has Water Survey of Canada Gauges installed and data has been collected for many years.</p> <p>MNR has undertaken real-time flow data collection over the last two years at both locations via river profile analysis (River CAT doppler) and installation of pressure transducers. This data has been/will be provided to Xeneca.</p> <p>MNR hydrologists will scrutinize all flow metric analysis based on the WSC data as well as the recent data collected at the sites.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Existing Conditions	19-Apr-11	<p>Characterize pre-construction productivity, habitat, thermal regime, species assemblage (fish, benthos, aquatic plants) within the zone of influence (special focus on bypass reaches) and any tributaries that will be directly impacted by the proposed development. Specific components include:</p> <p>a. Describing condition of benthic community and associated annual variation prior to construction.</p> <p>b. Detailed description of habitat in ZOI, affected tributaries and bypass reaches, included sediment characteristics, channel characteristics, bathymetry and flow characteristics.</p> <p>c. Describing the existing thermal regime of the ZOI, affected tributaries and bypass reaches including annual thermal patterns and inter-annual variation.</p> <p>d. Describing existing species (fish, invertebrates, terrestrial and aquatic plants) within the ZOI, affected tributaries and bypass reaches.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Existing Conditions	19-Apr-11	<p>Characterize stock dynamics of recreationally/commercially important species within the ZOI to determine pre-construction levels. These levels will be used as targets for post-construction. Specific components include:</p> <p>a. Description of existing Walleye stock, including age, mortality, growth, fecundity and critical habitat areas,</p> <p>b. Description of existing Northern pike stock, including age, mortality, growth, fecundity and critical habitat areas,</p> <p>c. Description of existing Brook trout stock, including age, mortality, growth, fecundity and critical habitat areas</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Environmental Effects	19-Apr-11	<p>Demonstrate no-impact to the ecological integrity of the downstream CR and Provincial Park Specific components include:</p> <p>a. Characterize the baseline condition within the ZOI downstream from the site, including biodiversity of terrestrial/aquatic communities, stock structure of fish species currently inhabiting the reach and establishing baseline metrics to determine the magnitude and direction of any effect in a pre- and post-construction state.</p> <p>b. Characterize hydrological/physical characteristics of ZOI within the CR including sediment structure/distribution, habitat mapping, and monitoring of thermal regime in a pre- and post-construction state.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Baseline Survey	19-Apr-11	Requested a refined scope of work for benthos collection of bypass reaches and tributaries impacts by the development. Suggest OBBN protocol that includes representative sampling of all habitat types (including present riffle-pool habitat).	This version of the Draft ER was withdrawn; the comment no longer applies.	9

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Baseline Survey	19-Apr-11	Requested a refined scope of work for seasonal fish sampling within bypass reach to determine what is being lost, and the overall value.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Baseline Survey	19-Apr-11	Requested a refined scope of work for thorough assessment of all tributaries impacted within the ZOI – suggest EPA Wadeable Stream assessment protocol – provides benthos, habitat and vertebrate species information.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Baseline Survey	19-Apr-11	Requested a refined scope of work for amphibian collection throughout area of inundation – suggest drift fencing to determine this – cover boards not adequate.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Baseline Survey	19-Apr-11	Requested a refined scope of work for reptile surveys require rock-flipping to determine presence/absence.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Baseline Survey	19-Apr-11	Requested a refined scope of work for stock recruitment of recreationally/commercially important fisheries (BT, W, NP) including age, mortality, growth, fecundity and critical habitat areas.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Aquatic Ecosystem - Fish Habitat	19-Apr-11	Requested a refined scope of work for determination of compensation areas for lost spawning habitat.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Water Temperature	19-Apr-11	Requested a refined scope of work for determination of design to prevent thermal impact on trout-bearing waters.	This version of the Draft ER was withdrawn; the comment no longer applies.	11.2.4 and 12.2.4
Class EA - Baseline Survey	19-Apr-11	Requested a refined scope of work for physical/thermal assessment of river – including detailed bathymetry and temperature cycling of sites (including bypass reach) over yearly cycle.	This version of the Draft ER was withdrawn; the comment no longer applies.	9

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Public consultation	19-Apr-11	MNR has concerns regarding the degree and method of public consultation up until this point.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.3
Public consultation	19-Apr-11	Public Information Centres have been held in Foleyet, yet none in Timmins and Chapleau where many people that use the river reside.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.3
Public consultation	19-Apr-11	Open house material was lacking. Public information boards offered very little detail with respect to site design and/or the proposed water management regime.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.3
Public consultation	19-Apr-11	Very little, if any, information was posted with respect to other permit and approvals that are required (e.g. Requirements for WMP amendments).	This version of the Draft ER was withdrawn; the comment no longer applies.	17.3
Public consultation	19-Apr-11	MNR has been receiving several letters of concern from the public and some are claiming that Xeneca is not responding to them.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.3
Public consultation	19-Apr-11	What further public consultation opportunities are being planned for the residents of Timmins, Foleyet, and Chapleau? Will further detailed information be available at future open houses?	This version of the Draft ER was withdrawn; the comment no longer applies.	17.3
Public consultation	19-Apr-11	The MNR recommends that Xeneca work with MNR/MOE more closely to develop a comprehensive public consultation program.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.3
Stakeholder Consultation	28-Apr-11	Ivanhoe stakeholders advised they aren't hearing back from Xeneca. Requested information from Xeneca on Third Falls inundation, etc. Also concerned about last minute data submittals from Xeneca.	This version of the Draft ER was withdrawn; the comment no longer applies.	17
Design - Water Level	28-Apr-11	Question on mean lake levels - based on monthly or annual data?	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Baseline Survey	28-Apr-11	How is lake level max/min determined? What is period of record? If transducers only recently installed, concerned that have had very dry years and likely atypical conditions.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Project Permitting	28-Apr-11	For location approval, it will be best to have a more conservative approach in EA stage so that location approval falls inside of EA envelope. From a process perspective, if it is an impact at location approval stage, need to be considered at EA stage to avoid potential of having to open up the addendum provision.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Design - Dam Details	28-Apr-11	MNR asked about earthen embankment accessory dam for the Chute mentioned in project description.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix C
Design - Alternative Options	28-Apr-11	Why Xeneca is continuing to consider option 1 when MNR has advised that by legislation it is not an option because of the conservation area. With option 2, is it not considered one project (with The Chute) in terms of impact because of extent of inundation?	This version of the Draft ER was withdrawn; the comment no longer applies.	6.3 and 18.1
Design - Project Schedule	28-Apr-11	When will they receive updated PD to show option 2 and the 30 km of inundation?	This version of the Draft ER was withdrawn; the comment no longer applies.	6
General - Information Request	28-Apr-11	What is conflicting advice?	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
General - Opposition	28-Apr-11	Why is Xeneca proceeding with the project with greater inundation, less head? Why not stop the project given changed conditions?	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
General - Information Request	28-Apr-11	Would Xeneca like some process information from MNR?	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Design - Water Level	28-Apr-11	MNR - raised requirement for baseline data for full inundation length if option 2 is being followed up with.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Project Schedule	28-Apr-11	Is Xeneca looking for a FIT extension?	This version of the Draft ER was withdrawn; the comment no longer applies.	6
Design - Project Schedule	28-Apr-11	MNR is concerned that timelines are short, not enough time to collect/provide baseline data. Inundation affects down to Groundhog River, potential affect to sturgeon that spawn at 6 Mile Rapids. A mining company that has requirement to compensate. Mercury methylation and fish contamination issues discussed as well as recreational fishing, etc. MNR concerned that timeline does not allow for all of this data collection. Need to get Baseline Data Collection done to date submitted and what is planned.	This version of the Draft ER was withdrawn; the comment no longer applies.	6
Design - Project Schedule	28-Apr-11	Does The Chute get moved into medium priority if projects are addressed in a single EA?	This version of the Draft ER was withdrawn; the comment no longer applies.	6

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Aquatic Ecosystem - Erosion and Sedimentation	28-Apr-11	What is the erosion potential downstream of projects? Did not see discussion on this in the operating plan. How does Xeneca plan to baseline the sediment regime of the river downstream of the projects?	This version of the Draft ER was withdrawn; the comment no longer applies.	11.4.1.1
Aquatic Ecosystem - Erosion and Sedimentation	28-Apr-11	Orientation of project is very important based on past experience where operating project is on eroding bank.	This version of the Draft ER was withdrawn; the comment no longer applies.	11.4.1.1
Design - Water Flow	29-Apr-11	Need to provide details to district staff on what kind of flows would be available downstream on an hourly basis.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Class EA - Hydraulic Modelling	29-Apr-11	Question about MROR sites and operating band.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Design - Water Level	29-Apr-11	Can inundation be mapped at highest level and lowest level and downstream water levels?	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Class EA - Hydraulic Modelling	29-Apr-11	Advised they have not received HEC-RAS report yet.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Aquatic Ecosystem - Surface Water Levels, Flows and Movement	29-Apr-11	Concern is what areas might be dry with extended ponding as well as, connected wetland areas that might be affected. Added issues with ramping rates, substrate movement/effect from pulsing of flow is a concern. Would like to see this mapping, more examination of the downstream area. Ground truthing plans.	This version of the Draft ER was withdrawn; the comment no longer applies.	11.4.1, 12.4.1 plus 9.2, 11.2 and 12.2
Aquatic Ecosystem - Erosion and Sedimentation	15-Jun-11	Suggested that a few representative grain size samples could be taken and analyzed to determine susceptibility for erosion. Will Xeneca be submitting a formal statement on what options/inundation areas for the Chute and Third Falls are being considered?	This version of the Draft ER was withdrawn; the comment no longer applies.	11.4.1.1
Design - Water Level	15-Jun-11	Requested clarification from Nava on how to read the longitudinal profile and inundation area data. Expect no impact from the Chute downstream of the facility (37km downstream) due to attenuation of effect. a. 7.5 km upstream of the Chute there is a tributary (Shawmere confluence) with coldwater input and a healthy self-sustaining Brook Trout population– need to determine if it's ever possible to impact that. Noted that it's VERY clear what the inundation area. Also need to reconcile that with the public consultation that has occurred so far (which shows 2.8km).	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Alternative Options	15-Jun-11	Third falls has two options and Xeneca needs to determine which one - info was updated during the process - The first set is static inundation and one set of limitations - The dynamic inundation differences are between numbers and the issue between earlier vs. later data needs to be confirmed - The Latest stuff is in the EA document	This version of the Draft ER was withdrawn; the comment no longer applies.	6.3 and 18.1
Design - Water Level	15-Jun-11	2 What is flow? - Dynamic inundation has no fixed number - Static inundation use this much km	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Aquatic Ecosystem - Flooding	15-Jun-11	3 property assessment for max zone of influence would be an IDF number - The Max flood extent to be considered for the project - IDF is 1 in 100 but could still change - The numbers are close to the final for inundation extent - A 1 in 3 year assessment flood, pre and post project most useful not 1 in 100. What is impact of this?	This version of the Draft ER was withdrawn; the comment no longer applies.	12.7.5, 14.1.4 and 14.2.4
Design - Water Level	15-Jun-11	What are the proposed conditions? By looking at existing water elevation and existing conditions variation doesn't meet what is being said so is there still faith there will be a backwater effect?	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Water Level	15-Jun-11	The IDF should be 10 or higher and at what point does this constitute change to the project?	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Water Level	15-Jun-11	The Site 3 years ago was static inundation. The Environmental perspective is few inches in 6 km, thus is it effective? Also, does the zone of influence have an impact on the road bridge upstream?	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Aquatic Ecosystem - Flooding	15-Jun-11	In a 1 in 100 year flood, fluctuation will happen at low flow. The Head pond is sitting at 285. The Head pond is flat before a dynamic curve. It creates a triangle space. What is the impact to this area from the project?	This version of the Draft ER was withdrawn; the comment no longer applies.	12.7.5, 14.1.4 and 14.2.4
Design - Water Level	15-Jun-11	Static inundation has fluctuation of water, and dynamic has little fluctuation Noted need to determine how often the machine needs to be run and what is zone of influence (ZOI)? (this is the main question to determine how much to run the facility and its impact of it on the inundation area).	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Water Flow	15-Jun-11	The Seasonal flows provided are 2.3-2.6 and have not been observed in the last 10 years of observation. Thus, pretty low flow is proposed for the downstream. Need to process as frequently as possible during the day for a natural river. The concern is at Third Falls downstream of The Chute and there needs to be consideration for the expected impact near Third Falls at peak flow. The Chutes has a zone of influence upstream and downstream and should be shown in environmental report. For the process, need to rely on EA document?	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Water Level	15-Jun-11	Need to understand how things will be impacted, also because of fluctuation. What is the operational level of the head pond including the 1m fluctuation? What impacts will it have along the full extent of the inundation area? There is a strong concern about flows in intermittent operation period. Doesn't necessarily agree with the statement that attenuation over 37km will show no effect.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Water Level	15-Jun-11	Have you assessed how far back the backwater effect will extend into the tribs? What is the new area of the head pond based on the 6.5 inundation area?	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Aquatic Ecosystem - Surface Water Levels, Flows and Movement	15-Jun-11	How often will modified peaking happen because there is an influence on habitat? What are the Operating plans? Is the Zone realistic because it will extend all the way to the rapids and a bit faster since raise in levels. Also, need the specific information on operations otherwise have to require conservative Q20 and Q80 numbers. General statements are not sufficient.	This version of the Draft ER was withdrawn; the comment no longer applies.	11.4.1, 12.4.1 plus 9.2, 11.2 and 12.2
Class EA - Zone of Influence (ZOI)	15-Jun-11	Is it possible to extend ZOI downstream a bit through HEC-RAS modeling to be able to look at those impacts?	This version of the Draft ER was withdrawn; the comment no longer applies.	3.4
Aquatic Ecosystem - Surface Water Levels, Flows and Movement	15-Jun-11	Noted that sampling is required to assess those potential impacts along the extent of the river to determine those potential impacts. Upstream of inundation there is 1 m fluctuation beyond the head pond. The Upstream tail end fluctuation will happen with no long term excess (60 percent of time). The edge of head pond with wetland there is 1 m fluctuation but is unproductive. Upstream static inundation, flow velocities changes will be less than at the plant. If there is sampling down all the way to zone of influence, the head pond, lots of habitat will be lost.	This version of the Draft ER was withdrawn; the comment no longer applies.	11.4.1, 12.4.1 plus 9.2, 11.2 and 12.2
Design - Water Flow	15-Jun-11	The Issues proposed offering plan needs to be better addressed. From June 2 – Sept 1: 2.6m/sec are the numbers accurately presented? It needs to be broken down monthly not seasonally. Need to know what the Ops plan actually is? The tentative information is difficult to make a decision based on...seasonal information is only partially useful, but we need more information – would like monthly breakdown. QEA is set at a Q99.999 – not reasonable. Need more specific information on operation. NUMBERS: A downstream of Q80 is great. Pulse flows occur downstream and agree there is lots of storage on 37 km but big impact beyond 37km from peaking activity until evidence is presented there isn't an impact. Q80 is more comfortable to maintain in stream flow. To reach good ecological Integrity, Q80 from Third Falls into Conservation Reserve is base flow. Need to demonstrate impacts. To demonstrate impact of thermal effects, need below Q80 at the Chute and meet Q80 at Third Falls.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Aquatic Ecosystem - Surface Water Levels, Flows and Movement	15-Jun-11	Q80 forgoes intermittent operations as constraint but need legislative mandate to ensure ecological integrity in protected areas. If move below Q80 then think that affecting ecological integrity which it was established for. This creates a challenge!	This version of the Draft ER was withdrawn; the comment no longer applies.	11.4.1, 12.4.1 plus 9.2, 11.2 and 12.2
Aquatic Ecosystem - Surface Water Levels, Flows and Movement	15-Jun-11	If you can demonstrate a constant Q80 at Third Falls and going into the Conservation Reserve MNR would be comfortable that there will be no biological impact which meets their mandate. Need to have a model which demonstrates that to meet their level of comfort.	This version of the Draft ER was withdrawn; the comment no longer applies.	11.4.1, 12.4.1 plus 9.2, 11.2 and 12.2

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Operation Plan	15-Jun-11	Need is natural flow. Thus, how often will the plant operate during intermittent operations?	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6 plus Appendix D
LRU - Protected Areas	15-Jun-11	Dam proposed for within the Conservation Reserve was not going to happen due to what was involved in trying to get the process changed and was more work than reasonable.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.6, 11.6.6 and 12.6.6
Design - Water Flow	15-Jun-11	Flow expectation is Q80 at Third Falls.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Aquatic Ecosystem	15-Jun-11	Need to determine what values need to be met for ecological integrity. Need to draw a line at a number suitable. Also need Ontario Parks at the table to determine requirements for ongoing testing and spawning. This will maintain ecological integrity and diversity of the Conservation Reserve.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4, 11.4, and 12.4
Aquatic Ecosystem - Surface Water Levels, Flows and Movement	15-Jun-11	We need inundation zone as soon as possible. Improving spawning habitat, the build can be wide and flat or narrow and deep. However, shallow and wide is the best.	This version of the Draft ER was withdrawn; the comment no longer applies.	11.4.1, 12.4.1 plus 9.2, 11.2 and 12.2
Design - Project Schedule	15-Jun-11	When are we expecting the EA report for Third Falls?	This version of the Draft ER was withdrawn; the comment no longer applies.	6
Aquatic Ecosystem - Fish Habitat	15-Jun-11	Can we maintain fish habitat downstream of the Chute?	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Fish Habitat	15-Jun-11	What is the velocity for Walleye spawning?	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4.1, 11.4.1 and 12.4.1
Design - Water Flow	15-Jun-11	If the Third Falls is constructed and the Q80 at the Third Falls is irrelevant since it's a head pond now. How to reconcile?	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Operation Plan	15-Jun-11	Are you looking for a change in Operations in the Ivanhoe Lake Dam?	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6 plus Appendix D

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Zone of Influence (ZOI)	09-Sep-11	<p>Zone of Influence and Assessment of Potential Impacts</p> <p>The OMNR believes that the zone of influence may extend to the Groundhog River, given the expected run-of-river-with-modified-peaking regime that is proposed. The OMNR would like to see any further modelling, analysis, or results regarding the upstream inundation and the downstream variable flow reach.</p> <p>OMNR suggests that the zone of influence will extend to a downstream limit where variable flows generated by peaking activity at the facility are no longer detectable. This limit has been described by some research as the point where contributory flows from other inputs are sufficient to dilute any variable flow signal.</p> <p>Agreement from all relevant agencies on the ZOI was not established early in the EA process, and therefore the geographical extent for the assessment of potential impacts was not clarified. Insufficient evidence has been presented in the ER to confirm the extent of the upstream and downstream zone of influence. It is therefore difficult to rationalize the scope of your sampling efforts and assessment of potential environmental effects. As a result, the scope of potential effects and mitigation cannot be considered complete.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	3.4
Class EA - Significant Concerns	09-Sep-11	Part of the purpose of the Class Environmental Assessment process is the thorough evaluation of potential net environmental effects of the project in a systematic fashion. Given that the natural environment (both aquatic and terrestrial) of the upper 3.6 km of the dynamic inundation area has not been described within the ER, it is not possible to accurately determine what the potential effects on this environment may be, nor what mitigation and monitoring strategies may be appropriate.	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Class EA - Significant Concerns	09-Sep-11	The OMNR is concerned that information and analysis is missing from the assessment of environmental effects matrix (Table 4). In many cases, Xeneca has simply stated that the potential effect is "unknown due to outstanding data and information." The stated purpose of the Class EA is to "assess the potential for effects to the environment using best information available in order to make an informed decision about how or whether a project should proceed." With so much missing information, the assessment of potential environmental effects and associated mitigation is considered incomplete. With respect to issuing the required permits and approvals for this proposed project, it is difficult to determine if the project is consistent with the purposes of various pieces of legislation that OMNR is responsible for.	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Operation Plan	09-Sep-11	<p>As discussed in prior correspondence with Xeneca and also during various face-to-face meetings, the OMNR has requested a preliminary dam operating plan for the Chute Generating Station as part of the EA planning process. The plan must clearly identify the variability in flows for the proposed operations relative to the natural flows of the river to gain an understanding of how the facility may be operated under various flow parameters and how the proposed dam operation may result in environmental effects. A preliminary dam operating plan typically describes the magnitude, duration, frequency, timing and rate of change of flows and levels —including both generated and spilled flows.</p> <p>Without this information, it is not possible to determine what environmental effects may be expected from the operation of the facility and to propose any effective mitigation or monitoring strategies. A preliminary dam operating plan deemed acceptable by the OMNR will be required prior to the granting of approvals under the Lakes and Rivers Improvement Act. The Environmental Report states that there will be "...no impact on the downstream Conservation Reserve" associated with operation of the facility. At the meeting of June 15 2011, Xeneca had committed to providing 080 flows at the crest of Third Falls to reasonably sustain the ecological integrity of the Northern Claybelt Conservation Reserve. It was further agreed that Xeneca would provide hydrological modelling, with the assistance of OMNR hydrologists, to determine what base flows would be required at the Chute facility at various flows to sustain the 080 at the crest of Third Falls. This information was not presented within the Environmental Report and will need to be part of the preliminary dam operating plan submission.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6 plus Appendix D
Aboriginal Consultation	09-Sep-11	Aboriginal consultation for related regulatory processes should be coordinated and harmonized. However, it is apparent from statements in the ER that Xeneca has not yet completed its procedural aspects on Aboriginal consultation.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.4
Aboriginal Consultation	09-Sep-11	The ER does not contain documentation from the individual Wabun communities verifying that the tribal council can engage in consultation efforts on their behalf. At this point in time, and until Xeneca provides an update to the Aboriginal communities' response to the ER review, the Ministry of Natural Resources is not in a position to evaluate whether or not the Crown's duty to consult has been met, nor what further actions by Xeneca would be necessary to enable the issuance of permits and approvals for this project to proceed. Further consultation is at the discretion of the proponent at this stage of the process. However, prior to issuing permits and approvals, the Ministry of Natural Resources must be assured that the Aboriginal consultation process conducted by the proponent has been adequate for the Crown to meet its duty to consult and, if necessary, accommodate Aboriginal and treaty rights. If there are Crown concerns that Aboriginal consultation requirements have not been met, additional consultation may be required, which could result in project delays.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Monitoring Plan	09-Sep-11	<p>Post construction monitoring has not been included in the ER. A post construction monitoring plan should address uncertainties associated with the determination of net effects and the effectiveness of the dam operating plan and other strategies to mitigate predicted effects. In general a post construction monitoring plan should incorporate clearly stated monitoring objectives, identification of performance indicators and measurement endpoints, data collection methods and protocols, monitoring frequency and reporting requirements. The reporting requirements should use the following framework to guide the monitoring plan:</p> <ul style="list-style-type: none"> o What was the ecological condition (status) before construction? o What is the potential degree of alteration in key ecosystem components posed by the planned development? o What is the potential impact to the ecological condition? o What measures are predicted to mitigate the impact and maintain or restore the ecological condition? o What is the effectiveness of the mitigation strategies? o What is the effect of resulting tradeoffs? 	This version of the Draft ER was withdrawn; the comment no longer applies.	16
General Comments	09-Sep-11	<p>The Environmental Report as presented is insufficient to provide for the requirements associated with OMNR permitting and approvals process. MNR encourages Xeneca to consider re-issuing their Environmental Report (ER) to address the information requirements and comments from OMNR to better address the concerns and information gaps identified from the review. This would require a further public review period for the revised ER and possibly public information opportunities at various locations (Foleyet, Chapleau and Timmins) to inform stakeholders and the interested public about new information and project design.</p> <p>In the absence of a re-issued ER, additional information and associated review will be required prior to any permits or approvals being considered e.g. permits and approvals associated with the Crown Forest Sustainability Act, Public Lands Act and the Lakes and Rivers Improvement Act (and possibly the Aggregate Resources Act and Fish and Wildlife Conservation Act if required). This may result in significant project delays.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
General Comments	09-Sep-11	Additional detailed comments can be found in the attached itemized comment submission. We trust that this provides a clear outline of OMNR's review and we look forward to working with Xeneca to address outstanding information gaps, subsequent effects evaluation and proposed mitigation strategies.	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Aboriginal Consultation	09-Sep-11	<p>Executive Summary, Page 5, Line 6</p> <p>Regarding the statement "The proponent necessarily reserve the right to variances between the conceptual design presented herein and the detailed engineering design subsequent to the completion of the environmental assessment, provided that such variances do not materially and negatively impact the environment beyond the scope of the impact described herein." It is not just the "material and negative impacts to the environment" that must be looked at. All variances subsequent to the completion of EA must also be assessed for adequacy of Aboriginal consultation. As such, there may be a need for additional Aboriginal consultation to fully inform the communities of the final project details, elicit concerns, interests and information regarding potential infringement, and seek mitigation options as necessary.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	17.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Commitments	09-Sep-11	Executive Summary, Page 5, Line 10 Regarding the statement "Based on First Nation input, alternative materials other than concrete, will be considered in construction pending approval by the Ontario Ministry of Natural Resources (MNR)." This commitment needs to be specifically listed in Section 10 Commitments of the ER.	This version of the Draft ER was withdrawn; the comment no longer applies.	18.2
Class EA - Commitments	09-Sep-11	Executive Summary, Page 8, Line 34 The text contains a commitment regarding the "planting of cedar to mitigate aesthetic impacts", however, this commitment is not listed in Section 10 Commitments of the ER. All commitments made in the ER need to be listed in Section 10 of the ER.	This version of the Draft ER was withdrawn; the comment no longer applies.	18.2
Class EA Process	09-Sep-11	Section 1.1 Waterpower in Ontario, pg.1 In the introduction to Project section it is explained that "Third Fall" GS site is being evaluated separately under the Ontario EA Act and the CEAA. In discussions with Xeneca, MNR understands that the inundation area associated with the proposed Third Falls development may extend to the base of the Chutes site. Would these two developments not constitute one related cumulative impact on the Ivanhoe River and therefore subject to one EA review? MNR also heard MOE express this concern previously (EA scoping meeting) and it appears that Xeneca has not addressed this issue. We suggest that these two projects should not be assessed in isolation and the proponent should reconsider the EA process in this regard.	This version of the Draft ER was withdrawn; the comment no longer applies.	2
Federal Screening	09-Sep-11	Section 1.4.1 Legal Framework, pg. 5-6 This section describes that transmission facilities less than 115kv are categorized A projects under reg 116/01 (as identified in the OWA Class EA), yet the proposed transmission corridor for The Chute is being included as part of this EA because it is required for the Federal CEAA process. MNR supports a coordinated and integrated process for the entire waterpower project (including the transmission lines). To ensure that MNR has the sufficient information and analysis to support making decisions on dispositions associated with the transmission line, the following is required: The screening table found in the Class EA is an effective tool that allows MNR staff to identify potential environmental effects of a proposed project and help ensure effective mitigation measures are developed and implemented to minimize the effect of the project. The screening supports MNR making an informed decision prior to issuing dispositions.	This version of the Draft ER was withdrawn; the comment no longer applies.	7.3

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Alternative Options	09-Sep-11	<p>Section 1.4.1 Legal Framework, pg. 5-6</p> <p>By using this screening approach for the proposed transmission corridor, MNR staff can determine whether the project has either</p> <ol style="list-style-type: none"> 1) nil/low potential net environmental effects or 2) moderate / high potential net environmental effects. <p>This determination is to support MNR in managing its proprietary rights and whether we ought to or not issue the disposition for the proposed transmission corridor. In addition, the requirements in the Application Review and Land Disposition Process (PL 4.02.01) must be met prior to issuing a disposition.</p> <p>Where a project has a potential net mod/high environmental effects, MNR staff will work with proponents on establishing an evaluation process which could include:</p> <ul style="list-style-type: none"> • A description of the alternatives for carrying out the project; • A description and evaluation of the environmental effects for the alternatives, including mitigation and monitoring requirements • Consideration of the comments received from the notice • Rationale for choosing preferred alternative 	This version of the Draft ER was withdrawn; the comment no longer applies.	6.3 and 18.1
Class EA - Environmental Effects	09-Sep-11	<p>Section 1.4.3 Identify Potential Environmental Effects, pg. 7</p> <p>This section does not describe the potential environmental effects associated with this project within a zone of influence that has been agreed upon all relevant agencies. Additional information will be required prior to permitting and approvals.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	09-Sep-11	<p>Section 1.4.3 Identify Potential Environmental Effects, pg. 7</p> <p>Appendix B is incomplete as it is missing meeting minutes of the June 15 2011 meeting in Timmins. Also the appendix should include a description of contents including a full table of documents and the 'potential Environmental Effects' should be presented.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Mitigation Measures	09-Sep-11	<p>1.4.4 Identify Required Mitigation, Monitoring or Additional Investigations, pg. 7</p> <p>This section mentions that "Environmental Assessment (EA) team developed a summary of recommended actions to prevent and mitigate negative affects of the proposed undertaking." As per the comment above, the negative effects have not been properly identified. Where is the "summary of recommended actions"? This summary is not provided within the Environmental Report (ER) document.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	11 and 12
Class EA - Mitigation Measures	09-Sep-11	<p>1.4.4 Identify Required Mitigation, Monitoring or Additional Investigations</p> <p>Appendix of commitments should be introduced with specific monitoring and mitigations presented.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	11 and 12

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Stakeholder Consultation	09-Sep-11	1.4.5 Agency and Public Consultation and Aboriginal Communities Engagement MNR is concerned that the public consultation of this EA process will be insufficient to provide for OMNR permits and approvals. Different information was presented at different PICs and no notice was specifically provided that significant project details had changed. For example, the extend of inundation changed dramatically from one open house to the next. Additional consultation may be required for MNR permitting.	This version of the Draft ER was withdrawn; the comment no longer applies.	17
Public and Agency Consultation	09-Sep-11	1.4.5 Agency and Public Consultation and Aboriginal Communities Engagement Agency and public consultation part show no consultation with SAC of Mattagami River Water Management Plan.	This version of the Draft ER was withdrawn; the comment no longer applies.	17
Existing Conditions - Infrastructure	09-Sep-11	2.2 Existing infrastructure, pg 12 It is mentioned here that water level/flow manipulations at Ivanhoe Lake Dam (MNR controlled) may potentially impact the levels and flows at The Chute. The proponent should have a clear understanding on how the MNR dam is operated and how it may affect the levels and flows at the Chute Site. This understanding is needed such that the dam operating plan for the Chute site can be developed based on accurate flow/timing information regarding the dam upstream. Flows from the MNR dam may affect headpond retention time, headpond water quality, thermal conditions in the river, etc. In order to properly understand the potential impacts on the river from the Chute development and be able to develop a relatively precise dam operating plan, the influence of the MNR dam must be clearly understood and presented in the ER.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Existing Conditions - Soil	09-Sep-11	2.5 Soils More information on soils is required to understand impact of dam operation on riverbanks and channel morphology. A quick look at some oneline information revealed the following reference: Evans & Camerson, 1984. Reconnaissance soil survey of the Foleyet-Chapleau Area, Northern Ontario, Ministry of Natural Resources. 40p. + maps.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.1.4
Existing Conditions - Geology	09-Sep-11	2.6 Geology More information is required - impacts of program cannot assessed if not known what dam will be sitting on/around. A quick look at some online information revealed the following reference: Thurston et al., 1977. Geology of the Chapleau area, districts of Algoma, Sudbury, and Cochrane. Ontario Division of Mines. 239p..	This version of the Draft ER was withdrawn; the comment no longer applies.	9.1
Existing Conditions - Geology	09-Sep-11	2.6 Geology Statement of 'fine substrates running between bedrock outcrops' is inconsistent with information presented by desktop erosion study (Annex 1-C). Substrate as defined here will be highly susceptible to erosion and this potential must be considered prior to any permitting or approvals being granted.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.1

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Existing Conditions - Hydrogeology	09-Sep-11	2.7 Hydrogeology This inventory of wells should be looked for the entire reach of river including third Falls site within 1 KM of the either side of of river to assess the effects on as wells along the river not only around the dam site.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.2
Existing Conditions - Hydrogeology	09-Sep-11	2.8 River Hydrogeology The drainage area at The Chute site was calculated to be 2730.5km2, which is a minor difference from the 2723km2 listed in the ER. What is the source of the MNR 2010b reference? (It is not in the Reference List.)	This version of the Draft ER was withdrawn; the comment no longer applies.	9.2
Existing Conditions - Water Levels, Flow and Movement	09-Sep-11	2.8.1 Wate Levels, Flow and Movement Please mention the section and page within the report where the potential impacts have been described.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.2
Class EA - Baseline Survey	09-Sep-11	2.8.2 Surface Water Quality All surface water quality information is described by a single sample taken at each site during each period.This does not provide adequate duplication to determine confidence intervals associated with parameters. At minimum, triplicate samples should be taken at each site to build adequate baseline information and a zone of natural variability. Information as presented is not adequate to provide baseline characterization of surface water quality at the Ivanhoe site and further information may be required prior to permitting and approvals being granted by the OMNR.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Baseline Survey	09-Sep-11	2.8.2 Surface Water Quality Sampling should have been continued year over year to provide an idea of temporal variability which will allow future separation of impacts of climate vs impacts of projects.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Baseline Survey	09-Sep-11	2.8.2 Surface Water Quality Additional sampling sites (including a control) should be added to determine a real baseline as this will aid in future impact assessment.	This version of the Draft ER was withdrawn; the comment no longer applies.	9

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Existing Conditions - Surface Water Quality	09-Sep-11	2.8.2 Surface Water Quality Thermal regime changes have been expressed as a concern of the OMNR. As no information has been collected on this, the impacts of proposed construction and operation have not been described and remains unaddressed by the report. This must be remedied prior to approvals and permits being granted.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.2
Existing Conditions - Surface Water Quality	09-Sep-11	2.8.2 Surface Water Quality OMNR has consistently requested a pre-construction survey of the thermal regime of the river using in-stream thermostats. This survey would inform Xeneca and the OMNR of the baseline conditions to address thermal regimes concerns and may be required prior to permitting and approvals.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.2
Existing Conditions - Surface Water Quality	09-Sep-11	2.8.2 Surface Water Quality The document states that only 'generalist' species were sampled, while Annex 1-B describes specialist cold-water species. Any impact to the thermal regime of the river will be detrimental to these species. The ER does not describe the expected impact to the thermal regime, thus purpose 2 (d) of the Lakes and Rivers Improvement Act (LRIA) cannot be fulfilled.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.2
Class EA - Zone of Influence (ZOI)	09-Sep-11	2.9 Ecology Zone of influence as described by the Environmental Report has not been agreed upon by the Ontario Ministry of Natural Resources. Evidence, as presented, is insufficient to support Xeneca's position that the zone of influence extends only 520 m downstream from the proposed generating station. In addition, the upstream dynamic inundation zone remains unassessed making any determination of effects and/or mitigation impossible. Agreement must be reached prior to the consideration of further permits and approvals. Further modelling with the support of MNR and MOE hydrologists is required to confirm the upstream and downstream zone of influence.	This version of the Draft ER was withdrawn; the comment no longer applies.	3.4
Existing Conditions - Ecology	09-Sep-11	2.9 Ecology Brook trout have been reported by stakeholders both upstream and downstream from the project location. Tributaries both upstream and downstream from the site are known to hold brook trout populations. There remains some question as to whether sampling as conducted was sufficient to detect this species.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3 and 9.4
Existing Conditions - Ecology	09-Sep-11	2.9 Ecology Without inclusion of the 2011 field data where the additional inundation area was to be assessed, it is impossible to determine the impact of the proposed project on the natural environment within the expanded inundation area. This must be addressed prior to any permits or approvals being considered by the OMNR.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3 and 9.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Existing Conditions - Ecology	09-Sep-11	2.9 Ecology The goal of ER is to assess and mitigate potential project impacts. Without including areas known to be impacted this is impossible. The information as presented will not be sufficient to inform the OMNR in meeting legislative obligations.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3 and 9.4
Existing Conditions - Ecology	09-Sep-11	2.9 Ecology The ecology section should not only include information from SIP, but also summarize information gathered from NRSI investigations.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3 and 9.4
Existing Conditions - Ecology	09-Sep-11	2.9.1 Terrestrial Habitat and Species A Bald Eagle with probable nesting activity has been observed by NRSI. The breeding location may need to be confirmed.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3 and 9.4
Existing Conditions - Ecology	09-Sep-11	2.9.1 Terrestrial Habitat and Species It is likely that Common Nighthawk and Whip-poor-will are in the area, therefore, evening surveys to confirm presence/absence will be required prior to permitting, as thus far only morning surveys were conducted.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3 and 9.4
Existing Conditions - Ecology	09-Sep-11	2.9.1 Terrestrial Habitat and Species No turtle surveys (basking, etc) were conducted though snapping turtles have been reported from Foleyet and painted turtle are known to be in the area. There are also been unconfirmed reports of Wood Turtle in the area, however, no validation of this has been made available. This is a data gap that should be addressed.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3 and 9.4
Existing Conditions - Ecology	09-Sep-11	2.9.1 Terrestrial Habitat and Species Annex III discusses "commitments to understanding the potential impacts of the proposed Chutes GS will be further discussed through impact assessment, detailed design, and permitting stage of work." The purpose of the EA is to understand the potential impacts of the proposed project and mitigate potential negative impacts as appropriate. This is highly inconsistent, if further commitments to understanding the potential impacts are being proposed by Xeneca, they should be included in the Environmental Report to inform OMNR permits and approvals. Without the information, additional information will be required from Xeneca prior to permitting and approvals.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3 and 9.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Commitments	09-Sep-11	2.9.1 Terrestrial Habitat and Species Annex III suggests that additional work will be required to determine the significance of the study area for large weasel denning. This represents a commitment from Xeneca.	This version of the Draft ER was withdrawn; the comment no longer applies.	18.2
Existing Conditions - Ecology	09-Sep-11	2.9.1 Terrestrial Habitat and Species The Annex III impact assessment on terrestrial areas (section 8.2.1.1) describes that insufficient information is available to conduct an impact assessment, because of a lack of field information and the changing description of the headpond. Thus the impact assessment is incomplete. This must be retified prior to any permitting or approvals being granted.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3 and 9.4
Existing Conditions - Ecology	09-Sep-11	2.9.1 Terrestrial Habitat and Species As described in Annex III, additional survey information is required for the proposed generating site, laydown areas and proposed access roads prior to any permitting for construction to ensure that no significant wildlife habitat features or other sensitive values are impacted. Without detailed knowledge of what is in the sites, no assessment of impacts can be made. Xeneca commits to conducting these assessments in Annex III, and these assessments will be required prior to any sort of location approval being granted.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3 and 9.4
Class EA - Environmental Effects	09-Sep-11	2.9.1 Terrestrial Habitat and Species Section 8.2.5 describes the proposed embankment. Details as to the proposed impact of this embankment (i.e. ponding/flooded areas, extend to be flooded, new drainage channels, habitat loss) must be presented to adequately assess impacts for the Environmental Report and OMNR approval. This information is absent from this report.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	09-Sep-11	2.9.1 Terrestrial Habitat and Species No understanding of the impacts of peaking activity on terrestrial wildlife in the dynamic inundation zone is presented. At minimum, peaking activity will impact any edge-associated wildlife and activities (i.e. beavers, muskrat, otters, moose aquatic feeding areas). Existing wildlife concentrations and expected impacts should be presented (i.e. beaver houses) within the 6.4 km headpond. Currently, the dynamic water level associated with the peaking activity will prevent Moose Aquatic Feeding Areas from functioning within any area that will be experiencing water level flucturations. These impacts must be described, alongside an understanding of the spatial extend which will be impacted by this activity (e.g. will 6.4km upstream and 37 km downstream of site lose all potential aquatic feeding areas?). This must be further developed prior to any sort of location approval being granted.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Commitments	09-Sep-11	2.9.1 Terrestrial Habitat and Species The ER report does not include specific commitments to further monitoring and assessment. This is must addressed prior to approvals and permits being granted by the OMNR.	This version of the Draft ER was withdrawn; the comment no longer applies.	18.2

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Existing Conditions - Ecology	09-Sep-11	2.9.1 Terrestrial Habitat and Species Incomplete: 2011 Field season results not included so cannot comment on full extent of terrestrial wildlife and habitat impacts or mitigation measures. Good use of ELC and significant wildlife habitat approach in Annex III and appendices. This approach should be applied to additional 2011 study area as well as roads and transmission corridors.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3 and 9.4
Existing Conditions - Ecology	09-Sep-11	2.9.2 Aquatic Habitat and Species On page 29 of the Natural Environment Characterization and Impact Assessment Report it states that there are several areas that have suitable substrate for spawning walleye upstream of The Chute. Please explain why visual surveys were not performed and egg mats were not deployed at this location.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3 and 9.4
Class EA - Monitoring Plan	09-Sep-11	2.9.2 Aquatic Habitat and Species On page 57 of the Natural Environment Characterization and Impact Assessment Report it states that sediment control measures will be routinely inspected to ensure they are functioning as intended. The amount and fashion of monitoring should be described, as well as detailing the sediment control measures that will be utilized.	This version of the Draft ER was withdrawn; the comment no longer applies.	16
Existing Conditions - Ecology	09-Sep-11	2.9.2 Aquatic Habitat and Species Given that stakeholders have reported angling of sturgeon at the base of the Chutes, the field program should have been extended to demonstrate that sturgeon are not actively using the Chutes sites with the sturgeon trot lines. In addition, sampling should be consistent (i.e. 1.5 hrs vs 16 hr set times).	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3 and 9.4
Class EA - Baseline Survey	09-Sep-11	2.9.2 Aquatic Habitat and Species Sampling as described is insufficient. Electrofishing and other methods should be deployed to determine fish assessment.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Baseline Survey	09-Sep-11	2.9.2 Aquatic Habitat and Species Only northern pike were captured during the angling portion of the walleye spawning survey. What types of bait were used while performing this portion of the walleye spawning survey and how come angling did not occur prior to 11:30am on any of the days that the study was performed?	This version of the Draft ER was withdrawn; the comment no longer applies.	9

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Environmental Effects	09-Sep-11	2.9.2 Aquatic Habitat and Species On page 68 of the Natural Environment Characterization and Impact Assessment Report, it states that the "impacts related to cavitation at the Chute generating station are also anticipated to be minimal because of the selection of the turbines which can operate at a high rate of generation efficiency under a wide range variety of flows" however page 66 states that "the number and type of turbines have not been selected". How can the cavitation impacts are considered (or determined) minimal if it is still undetermined what type and how many turbines will be used? Clarifications will be required prior to any approvals or permits being granted.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Existing Conditions - Ecology	09-Sep-11	2.9.2 Aquatic Habitat and Species Statements that fish species present in the river are generalists is highly misleading as several of the species rely on coldwater habitats and are highly susceptible to changes in the thermal regime of the river. This is not a warm water assemblage and the ER should be changed to reflect this.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3 and 9.4
Class EA - Environmental Effects	09-Sep-11	2.9.2 Aquatic Habitat and Species No assessment was done of the dynamic inundation zone (3.6 km of river). Thus the impacts of the proposed development can not be known. This assessment may be required prior to any permits/approvals being granted by the OMNR.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Baseline Survey	09-Sep-11	2.9.2 Aquatic Habitat and Species No data collected during the 2011 field season is included in this assessment. Adequate baseline information requires several years to determine scope of variability. Without this information, assessing any project impacts through monitoring is very difficult. This must be addressed prior to LRIA approval. Documentation from NRSI suggests that these could be high-value habitats thus this must be assessed prior to construction to determine the contribution to the aquatic ecosystem integrity of the area.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Existing Conditions - Ecology	09-Sep-11	2.9.2 Aquatic Habitat and Species High value habitats are likely within the upper dynamic inundation zone, including excellent potential spawning locations and potential brook trout habitat. This must be assessed prior to any consideration of permitting approvals.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3 and 9.4
Class EA - Baseline Survey	09-Sep-11	2.9.2 Aquatic Habitat and Species Information presented in Annex III is focused on solely on fish while the OMNR has consistently requested information on the aquatic community (including benthic macroinvertebrates) to provide an understanding of baseline conditions prior to development. This has not been conducted to date, making any assessment of impacts to this sensitive portion of the community impossible. This information is required to determine the impact of the proposed project construction/operation on the aquatic ecosystem. this information will be required prior to permitting and approvals.	This version of the Draft ER was withdrawn; the comment no longer applies.	9

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Baseline Survey	09-Sep-11	2.9.2 Aquatic Habitat and Species Walleye begin spawning at 6 C, temperatures indicated by survey conditions are circa 8 C. There is a high likelihood that spawning location have been overlooked because of the late sampling. Thus, information collected in 2010 should not be considered "typical". The inadequacy of this information will make it difficult (if not impossible) for the proponent to fully describe the potential impacts of the proposed development and operation of the facility on recruitment of this valued ecosystem component.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Existing Conditions - Ecology	09-Sep-11	2.9.2 Aquatic Habitat and Species The scientific name for cisco is <i>Coregonus artedii</i> .	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3 and 9.4
Class EA - Baseline Survey	09-Sep-11	2.9.2 Aquatic Habitat and Species The RIN used in 2010 was non-standard making the results inadequate for biodiversity or community assessment. It will be difficult to mesh with a 2011 RIN this is standardized, meaning that baseline conditions will be restricted to one-year. It is likely not adequate to determine any project-specific impacts during posting-construction monitoring and mitigation. This baseline will have to be continued into the future to be useful and may be required prior to any permits and approvals being granted by the OMNR.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Baseline Survey	09-Sep-11	2.9.2 Aquatic Habitat and Species During summer months, RIN may not adequately assess brook trout because of spatial/thermal limitations. Electrofishing was conducted on too few sites to fully determine if brook trout were present in the river. This remains an outstanding question for the ER, meaning that any potential impacts cannot be determined. This must be addressed prior to any permitting and approvals.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Environmental Effects	09-Sep-11	2.9.2 Aquatic Habitat and Species OMNR has consistently requested that Xeneca provide information on the tributaries that may be impacted by inundation /dynamic inundation. This is absent from the ER and is an outstanding question. Without this information, no determination can be made of the potential impacts of inundation on these sensitive environments. This is may be required prior to any granting of OMNR permits and approvals.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Aquatic Ecosystem - Fish Migration	09-Sep-11	2.9.2 Aquatic Habitat and Species NRSI report suggests potential for upstream fish migration through the eastern channel at the Chutes - this was not considered by OMNR staff. Xeneca, DFO and OMNR must determine if upstream movement is a possibility, and determine potential impacts if so.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4.2, 11.4.2 and 12.4.2

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Environmental Effects	09-Sep-11	2.9.2 Aquatic Habitat and Species NRSI report suggests that insufficient information was made available to adequately determine what the impacts of the proposed facility may be on the aquatic ecosystem of the Ivanhoe River. This is must be addressed to ensure that purpose 2 (d) of LRIA is maintained. This lack of information may need to be addressed prior to permitting and approval.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Commitments	09-Sep-11	2.9.2 Aquatic Habitat and Species Although the ER is to be a "binding" document, the lack of information prevents any solid commitments of monitoring or mitigation to be determined. Commitments from Xeneca may be required prior to permitting and approvals being granted.	This version of the Draft ER was withdrawn; the comment no longer applies.	18.2
Class EA - Commitments	09-Sep-11	2.9.2 Aquatic Habitat and Species The ER suggests that benthic communities are likely to change in the inundated areas. Without adequate baseline information, it will be impossible to detect, mitigate or compensate for these changes. This must be addressed prior to any permits and approvals being granted.	This version of the Draft ER was withdrawn; the comment no longer applies.	18.2
Class EA - Environmental Effects	09-Sep-11	2.9.2 Aquatic Habitat and Species Impacts to be aquatic environment from construction cannot be determined from the limited information presented in Annex III. This information gap may need to be addressed prior to any permits and approvals being granted by the OMNR. Best management practices are presented, but are not specific to the project.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Baseline Survey	09-Sep-11	2.9.2 Aquatic Habitat and Species As described in Annex III, a monitoring program must be discussed prior to any LRIA approval. The existing design calls for substantial loss of spawning habitat that will likely detrimentally impact an important sport fishery. Monitoring must be conducted to determine to what extent population will be impacted and to determine mitigation.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Design - Project Description	09-Sep-11	2.9.2 Aquatic Habitat and Species The necessity of the earthen embankment has been in question throughout this process. Will this structure be required? If yes, further details will be required, as this dam will require a separate LRIA approval and separate analysis of baseline environmental conditions.	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Mitigation Measures	09-Sep-11	2.9.2 Aquatic Habitat and Species Mitigation strategies are described as general controls which will be insufficient for the purpose of fulfilling the requirements of OMNR permits and approvals.	This version of the Draft ER was withdrawn; the comment no longer applies.	11 and 12
Class EA - Hydraulic Modelling	09-Sep-11	2.9.2 Aquatic Habitat and Species NRSI reopr suggests potential for large changes in quality of spawning areas downstream from the powerhouse and spillway. The proponent must demonstrate throught modelling what the impacts of the proposed construction will be for LRIA approval. As presented, this information is insufficient to determine what the impacts of facility operation may be.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Environmental Effects	09-Sep-11	2.9.2 Aquatic Habitat and Species Insufficient information has been presented to make determination of impacts derived from entainment or turbine mortality. No mitigation is committed to because of this lack of information. This should be assessed prior to OMNR permits and approvals.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Hydraulic Modelling	09-Sep-11	2.9.2 Aquatic Habitat and Species As described in section 8.4.2.2 of Annex III, sustantial modelling will be required by the proponent prior to the granting of OMNR permits and authorizations associated with the proposed project. The absence of this information in the ER is disturbing.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Monitoring Plan	09-Sep-11	2.9.2 Aquatic Habitat and Species No information has been presented for further monitoring. This will be required prior to any OMNR permits and approvals.	This version of the Draft ER was withdrawn; the comment no longer applies.	16
Existing Conditions - Ecology	09-Sep-11	2.9.2 Valued Ecosystem Components VEC section should include the socioeconomic importance of each component as moose, walleye, pike, etc to provide for local tourism opportunities.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3 and 9.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Baseline Survey	09-Sep-11	2.9.2 Valued Ecosystem Components The section on Walleye seems to downplay importance and status of walleye population at the site. Walleye are intensively angled by stakeholders and the population appears quite healthy. No statement can be made regarding potential spawning locations in the inundation zone as no assessment has been done on upper reaches and temperature of 2010 survey were questionable.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Existing Conditions - Ecology	09-Sep-11	2.9.2 Valued Ecosystem Components Northern Pike are desired angling species and have healthy populations in the area.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3 and 9.4
Existing Conditions - Ecology	09-Sep-11	2.9.2 Valued Ecosystem Components Large weasel denning is included in section but not referenced at the front, is this assuming large weasels are a VEC?	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3 and 9.4
Existing Conditions - Cultural Heritage	09-Sep-11	2.10 Cultural Heritage, pg 20 It is general practice that a stage 1 and 2 archaeological assessment is conducted within areas that have high potential for the disturbance of unidentified cultural heritage resources. A stage 2 has yet to be complete for all areas within the zone of influence that have high potential-including the area of inundation. MNR will require confirmation from the Ministry of Tourism and Culture that all cultural heritage planning requirements have been met. A stage 1 and 2 archaeological assessment may also be required for areas of high potential within the proposed transmission corridor.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.8
Existing Conditions - Cultural Heritage	09-Sep-11	2.10 Cultural Heritage, pg 20 The text needs to also document to potential for Culturally Modified cedar trees along the existing river and a reference to the Construction Management Plan annex detailing on how CMT's will be dealt with if located with the project proposal area. The stage 2 assessment should be set up to have the archeologists review the project area for the presence of CMT's so appropriate planning can take place prior to construction phase.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.8
Existing Conditions - Access	09-Sep-11	2.11 Current Land and Water Use 2.11.1 Access, pg 21 This section mentions that the boat launch, but does not reference the campsite or parking location at the boat launch that has been used extensively for many years. How will the access point, campsite, and parking area be affected by this project and how will any negative impacts be addressed?	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.2 and 9.7.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Existing Conditions - Recreation and Tourism	09-Sep-11	<p>2.11.3 Recreation Use and Commercial Tourism, pg 21</p> <p>This section mentions that the campsites "East" of the falls are used extensively. Which campsites are being referred to? The campsite at the boat launch or the campsites located further south (approx 200m) along the access road that leads into the Chute site?</p> <p>Also it is mentioned here that the falls are valued aesthetically by local residents (and tourists!). How many people come to the site every year to view the falls? How does this contribute to the local economy of the area? What will be the impact of the project on the aesthetic value of the falls? How will negative impacts on aesthetic be avoided or mitigated or remedied?</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.10 and 9.7.6
Existing Conditions - Recreation and Tourism	09-Sep-11	<p>2.11.3 Recreation Use and Commercial Tourism, pg 21</p> <p>This section does not mention the importance of this site to local commercial tourist outfitters. It is known that several outfitters in the area use this site extensively for angling, hunting, camping, nature appreciation, viewing the falls etc. How will this project affect other commercial users of the site? Has Xeneca completed any studies to quantify the level/degree of local commercial activity and its relative important to the local /regional economy? How has Xeneca determined that this proposed project will not necessarily affect existing businesses in the area and how does Xeneca plan to mitigate any lost revenue or other economic spin offs? The information regarding existing commercial tourism use of this site is inadequate for the purposes fulfilling OMNR requirements for permits and approvals.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.10 and 9.7.6
Existing Conditions - Recreation and Tourism	09-Sep-11	<p>2.11.3 Recreation Use and Commercial Tourism, pg 21</p> <p>There is no discussion in the ER with respect to winter use of the Ivanhoe River and how this development may affect ice conditions and public safety. How many people use this river for ice fishing, snowmobiling, dog sledding, snowshoeing, etc.? How will this development and associated intermittent flow operations affect ice conditions and public safety? Have these impacts been assessed? If not, why not? If/when negative impacts are identified, how does Xeneca propose to mitigate these concerns?</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.10 and 9.7.6
Existing Conditions - Recreation and Tourism	09-Sep-11	<p>2.11.3 Recreation Use and Commercial Tourism, pg 21</p> <p>The ER does not address other recreational features as well. The boat launch at the base of Chutes has been used for generation and is critical for assessing the Ivanhoe River for recreation users, tourist outfitters, trappers, and BMA operators among others. Has Xeneca considered how the boat launch use may be affected by this proposal? Are there plans to re-build another boat launch to proper specification? This is an important piece of local infrastructure that needs to be considered and any negative impacts addressed appropriately.</p> <p>Xeneca has also not addressed the canoe route portage adequately. This river is a historic route and the portages have been used for generations. How has Xeneca considered these features associated with the canoe route and how does Xeneca propose to ensure that these features remain usable for several more generations?</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.10 and 9.7.6
LRU - Angling and Hunting	09-Sep-11	<p>2.11.5 Hunting/Fishing Opportunities, pg 22</p> <p>It is mentioned here that the chute is used extensively for angling and supports a "number" of tourist outfitters. How many anglers use the site every year for angling? How many tourist operators are using this site and what percentage of their business relies on this section of the river? How does this contribute to the local economy of the area? What will be the impact of the project on the angling and tourism use of the site? How will negative impacts on recreational use and commercial tourism use be avoided or mitigated or remedied.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.4, 11.6.4 and 12.6.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
LRU - Angling and Hunting	09-Sep-11	<p>2.11.5 Hunting/Fishing Opportunities</p> <p>Numbers to describe the extent of usage of the site are needed. How many operators? What is the contribution to the local economy? This information is needed to determine the potential impacts of the project and to inform OMNR permits and approvals. OMNR has provided information on the useage of the site and anticipated its inclusion into the ER to fully determine local impacts of the project.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.4, 11.6.4 and 12.6.4
LRU - Baitfish Harvesting	09-Sep-11	<p>2.11.6 Trapping and Batifish Harvesting</p> <p>Because the inundation zone will reduce the habitat that fur bearing mammals would have utilized how will the trappers be compensated for potential decrease of fur harvest and revenue from the lost fur.</p> <p>Trappers need to be consulted regarding loss of trapping area and boundary displacement on the landscape.</p> <p>Because Bear Management Area (BMA's) harvest levels are based on the total square kilometers of their respective BMA (not including water), the reduction area or area caused by the inundation zone may directly affect how many bears an outfitter can harvest therefore affecting the amount of hunters that the outfitters can have on that BMA resulting in fewer hunters. How will the outfitters be compensated for the loss?</p> <p>BMA CP-30-024 should also be included in Section 2.11.6 as this BMA will also be affected by the inundation zone.</p> <p>Both BMA outfitters (CP-30-25 and CP-30-24) should be consulted regarding decreased area of land on BMA and boundary displacement on the landscape.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.5, 11.6.5 and 12.6.5
LRU - Baitfish Harvesting	09-Sep-11	<p>2.11.6 Trapping and Batifish Harvesting</p> <p>The current trapline boundary between CP11 and CP12 is within the proposed flooding area. The amount of water on these traplines will increase however this will change the area and the features that these trappers traditionally used to determine their trapline boundary. These trappers should be consulted with regarding the inundation area and how it may change the features there have typically used to determine their trapline boudary.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.5, 11.6.5 and 12.6.5
LRU - Protected Areas	09-Sep-11	<p>2.11.7 Protected Areas</p> <p>This section does not address whether or not the impacts of the proposed development will impact the protected areas downstream and their associated values for which they were protected. OMNR discussions suggest that the ZOI will extend past the boundary of the CR. Under the PPCRA and provisions of the LRIA, the proponent does not have the right to flood within the protected area beyond that which would normally occur. The proponent does not have the legal right to cause erosion within the conservation reserve or park downstream? How will this be assured? What plans are in place to monitor any changes to the natural environment within these protected areas? What corrective actions will be pursued if negative impacts are evidenced. MNR is concerned with the lack of investigation and analysis on the impacts of flow manipulation on the downstream protected areas. What will be the impact of intermittent loss of downstream contributory flow, unnatural high flows during day-time plant operation, sediment transport and accelerated erosion? This ER has not fully scoped the potential impacts on these protected areas and how these impacts may be addressed.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.6, 11.6.6 and 12.6.6

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Social and Economic - Economies	09-Sep-11	<p>2.12.1 Employment and Economic Setting</p> <p>This entire section is very presumptive and does not have proper references. How did Xeneca determine that Folyet is "in a state of economic decline"? Where did Xeneca reference the statement that "the employment rate is very low"? And how does Xeneca qualify the statement that "The town of Folyet for the most part relies on the income from the summer cottaging community to sustain local businesses"? Did Xeneca consider things such as mineral development in the area, provincial park revenues and employment, forestry contractors, etc. MNR would suggest that the Folyret local services board should be consulted when re-writing this section - as it is not a true reflection of the economic setting of the area and should be revised to accurately reflect the local environment.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.7.7, 11.7.7 and 12.7.7
LRU - Aesthetics	09-Sep-11	<p>2.12.3 Area Aesthetics</p> <p>It is mentioned here that the falls are valued aesthetically by local residents (and tourists). How many people come to the site every year to view the falls? How does this contribute to the local economy of the area? What will be the impact of the project on the aesthetic value of the falls? How will negative impacts on aesthetics be avoided or mitigated or remedied?</p> <p>Does the remainder of the area of influence not have any aesthetic appeal or value? Why has this not been mentioned? How did Xeneca determine that the aesthetics associated with the rest of the river reach and associated riffle sections does not have any aesthetic value worth mentioning in this section?</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.6, 11.6.6 and 12.6.6
Design - Project Description	09-Sep-11	<p>3.3.1 Installed Capacity and Annual Energy Output</p> <p>Based on the information provided by Xeneca, capacity calculate to be 2.29 MW (as opposed to 3.6MW). Data: Long term Annual Flow=29.7m³/s, Effective Head=9.0 m, Turbine Efficiency=0.92, Generator Efficiency=0.92). Based on the capacity figure other dependent figures in this section are difficult to rely on. This has been brought up by the NER engineers since 2008. Why is proponent relying on higher and apparently false numbers?</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6
Design - Project Description	09-Sep-11	<p>3.3.2 Headworks Structure</p> <p>An eastern embankment requires LRIA approval. OMNR will need to know where is being built, and what will happen to water behind structure. Further information will be required prior to any permits and approvals.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6
Design - Project Description	09-Sep-11	<p>3.3.3 Intake and Conveyance System</p> <p>This is insufficient detail presented to fully determine impacts, therefore, this is insufficient for approvals and permitting.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Project Description	09-Sep-11	3.3.4 Powerhouse This is insufficient detail presented to fully determine impacts, therefore this is insufficient for OMNR approvals and permitting and further information may be required.	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6
Design - Project Description	09-Sep-11	3.3.5 Turbines This is insufficient detail presented to fully determine impacts, therefore this is insufficient for OMNR approvals and permitting and further information may be required.	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6
Design - Project Description	09-Sep-11	3.3.5 Turbines Section does not describe the design or name plate capacity.	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6
Design - Project Description	09-Sep-11	3.3.5 Tailrace This is insufficient detail to determine the impact of tailrace on the aquatic environment. This should be reflected prior to any permits or approvals being granted.	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6
Design - Project Description	09-Sep-11	3.3.6 Tailrace Quantity of Excavated material and its use or disposal is not known.	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6
Design - Transmission Line	09-Sep-11	3.4.1 Connection Line Route Two options are presented for the transmission corridor. Option 2 will not be reviewed at this stage, as it is stated that this option "will only be considered for construction if the Third Falls EA is approved." Xeneca has submitted the Chute EA only and therefore MNR will not review Option 2 until such time as the Third Falls EA is prepared and presented. MNR comments from here forward will only address the portion of the transmission corridor that originates at the Chute site and terminates at the point of connection. KBM Tiles 16, 17, 18 and 19 only will be reviewed as they are the only tiles specifically associated with the Chute project. If the Third Falls site is part of this project, then MNR suggests that one ER should be prepared to address the total cumulative impacts associated with both Ivanhoe River developments.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix C

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Transmission Line	09-Sep-11	<p>3.4.1 Connection Line Route</p> <p>In the June 21st KBM report, it is explained that the consultant sourced various data sets in order to evaluate the proposed transmission route, including LIO, Nrcan topo data, 2008 FRI, SPOT orthoimagery, NRVIS data layers. It has been pointed out previously (Xeneca/ Agency meeting in Sudbury) that MNR holds some resource data internally that may not be available on the list of data sets that were reviewed. As such, Xeneca or KBM will need to engage in further discussions with Chapleau MNR regarding the proposed transmission route (Option 1) and further internal MNR review will be required before any permits and approvals can be issued to begin this work. For example, some sensitive value information is held internally and is not available publicly, such as locally known cultural heritage sites and sensitive fish and wildlife data (spawning sites, nets, etc).</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix C
Design - Transmission Line	09-Sep-11	<p>3.4.1 Connection Line Route</p> <p>For the purpose of permitting and approvals, the ER does not provide sufficient detail with respect to the line corridor dimensions and exact location. How wide will the clearing be to accommodate the corridor? Will there be an access road along the corridor? Will there be water crossings installed for an access road along/within the corridor right-of-way? Will the corridor right-of-way begin immediately at the edge of the travel portion of the road or will it be measured from the ditching or otherwise? It is suggested that the transmission right-of-way will run along a significant portion of Hwy. 101. Will this be within the MTO right-of-way or immediately adjacent or otherwise? Has MTO been consulted on this proposal?</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix C
Design - Transmission Line	09-Sep-11	<p>3.4.1 Connection Line Route</p> <p>A small portion of the proposed corridor appears to encroach upon the Vimy Lake Uplands Conversation Reserve just north of Hwy. 101. Can Xeneca please confirm if the proposed corridor will be within the MTO right-of-way or if it will indeed encroach upon the CR boundary in the vicinity? If Xeneca plans to build the transmission corridor within the CR boundary, special approval will need to be sought from the Minister of Natural Resources prior to any permitting and approvals.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix C
Design - Transmission Line	09-Sep-11	<p>3.4.1 Connection Line Route</p> <p>Under the PPCR Act, Section 20(2) states: Subject to the policies of the Ministry and the approval of the Minister, with or without conditions, utility corridors, including but not limited to utility corridors for electric transmission lines, are permitted in provincial parks and conservation reserves. 2006, c. 12, s. 20(2).</p> <p>Section 21 goes on to state...</p> <p>Conditions for approval 21. In approving the development of a facility for the generation of electricity under subsection 19 (2), (3) or (4) or approving a resource access road or trail or a utility corridor under section 20, the Minister must be satisfied that the following conditions are met: 1. There are no reasonable alternatives 2. Lowest cost is not the sole or overriding justification. 3. Environmental impacts have been considered and all reasonable measures will be undertaken to minimize harmful environmental impact and to protect ecological integrity. 2009, c. 12, Sched. L, s. 21.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix C

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Transmission Line	09-Sep-11	<p>3.4.1 Connection Line Route</p> <p>As such, if Xeneca plans to build any utility corridor with the CR boundary, further discussions will need to occur with MNR. Xeneca will need to clearly demonstrate how the three points under Section 21 of the PPCRA have been met. Please note that the Ministerial approval may take several weeks to months before any permits and/or approvals can be issued and there is no gurantee that this approval will be granted.</p> <p>Public consultation: Xeneca is attempting to meet their EA requirements for all permits and approvals via this ER. With respect to the transmission corridor, MNR is unconvinced that adequate public consultation has occured and therefore further review and consultation may be required prior to any permitting and approvals. From our view of the PICs, it appears that very little information was provided with respet to the exact corridor location and routing. Several tiles were missing from the PICs which show the planned route. This does not meet MNR expectations for public consultation.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix C
Design - Access Road	09-Sep-11	<p>3.4.3 Access Roads</p> <p>Please ensure that applicable road sharing agreements are developed with the appropriate SFL holders.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix C
Project Permitting	09-Sep-11	<p>3.4.3 Access Roads</p> <p>Proponent is recommended to refer to Part 1 and Part 4 of Work Permit application for each individual road upgrade and any new access roads- see section 3.5 for further details.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Design - Access Road	09-Sep-11	<p>3.4.3 Access Roads</p> <p>Furthe details are needed on access for permitting and approvals. See work permit application for details. OMNR needs to understand where aggregates will be derived from. OMNR also needs final routing for an effective review.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix C
Design - Access Road	09-Sep-11	<p>3.4.3 Access Roads</p> <p>The ER does not contain enough detail regarding the new road construction locations, particularly in the vicinity of the dam infrastructure development on the river to enable the permitting and approvals. Aboriginal consultation specific to these road construction activities has not been specified anywhere. It is highly likely that additional Aboriginal consultation would be required prior to issurance of permits and approvals. What is the access plan for the earthen embankment dam to permit the heavy equipment on site for construction and maintenance? No details are provided in the ER.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix C

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Bridge	09-Sep-11	3.4.4 Other Civil Works Regarding the Oates Road Bridge, Xeneca needs to be in discussion with the current bridge owner (EACOM Timber Corp) and will need to have the bridge inspected by a certified engineer in ordre to ensure the bridge meet the requirements under the " Crown Land Bridge Management Guidelines", becuase of the inundation area flooding. Responsibility of the bridge may revert to Xeneca as a result of changes to the superstructure/substructure, more discussions need to be had regarding the assignment of bridge responsibility.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Design - Construction	09-Sep-11	3.5 Construction Strategy Depedant of findings of 2011 sampling, scheduling may need to be revised to reflect specific sensitivities. Section is insufficient for OMNR permitting and approvals.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix C
Project Permitting	09-Sep-11	3.5 Construction Strategy Work permit required for clearing and grubbing of the site, including work area and laydown areas. (Please complete Work Permit Application Part 1 and return to MNR Chapleau District). For all individual projects applied for, please provide GPS coordinates (NAD 83 Zone 17, Easting and Northing). Work permits required for each road upgrade and construction of each new road access. (Please complete Applicartion for Work Permit - Part 1 and Road or Trail Construction - Part 4) (Tenure for road may be an easement - please complete Application for Crown Land). Work permit required for each watercrossing or bridge. (Please complete Applicartion for Work Permit - Part 1 and Water Crossing Construction- Part 4). Any work on shorelands will require a work permit. (Please complete Applicartion for Work Permit - Part 1 and Application to Do Work on Shorelands - Part 3). Any work in water will require a work permit. (Please complete Applicartion for Work Permit - Part 1 and Work within a Waterbody- Part 5).	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Project Permitting	09-Sep-11	3.5 Construction Strategy Any proposed aquatic vegetation removal activities will require a work permit (Please complete Applicartion for Work Permit - Part 1 and Application to Do Work on Shorelands - Part 3, and Works within a Waterbody- Part 5). Work permit required for construction of phase I cofferdam. (Please complete Applicartion for Work Permit - Part 1 and Application to Do Work on Shorelands - Part 3, and Works within a Waterbody- Part 5). Work permit required for excavation of of powerhose, intake and tailrace. (Please complete Applicartion for Work Permit - Part 1 and Application to Do Work on Shorelands - Part 3, and Works within a Waterbody- Part 5). Work permit required for construction of concrete powerhose and intake structure (Please complete Applicartion for Work Permit - Part 1, Building Construction - Part 2, Application to Do Work on Shorelands - Part 3, and Works within a Waterbody- Part 5). Work permit required for substation construction. (Please complete Application for Work Permit - Part 1 and Building Construction -Part 2).	This version of the Draft ER was withdrawn; the comment no longer applies.	7

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Project Permitting	09-Sep-11	3.5 Construction Strategy Separate Work Permits required for removal of phase I cofferdam and installation of phase 2 cofferdam. (Please complete Application for Work Permit - Part 1, Application to Do Work on Shorelands - Part 3, and Works within a Waterbody- Part 5 for each). Work Permit required for construction of spillway structure and overflow control gate (if required). (Please complete Application for Work Permit - Part 1, Application to Do Work on Shorelands - Part 3, and Works within a Waterbody- Part 5 for each). Separate Work Permits required for removal of phase 2 cofferdam and installation of phase 3 cofferdam. (Please complete Application for Work Permit - Part 1, Application to Do Work on Shorelands - Part 3, and Works within a Waterbody- Part 5). Work permit required for removal of phase 3 coffer dam. (Please complete Application for Work Permit - Part 1, Application to Do Work on Shorelands - Part 3, and Works within a Waterbody- Part 5). Site rehabilitation will be a condition of MNR approvals.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Project Permitting	09-Sep-11	3.5 Construction Strategy MNR requires Letter of Advice from DFO, proponent to organize. Proponent is advised that any tenure documents applied for that require surveys will be at the proponents expense. Chapleau District MNR will provide Surveyor with Survey instructions. MNR Chapleau District will review survey and send to Surveyor instructions, MNR Chapleau District will review survey and send to Surveyor General for approval. Proponent is advised that this process may well take many months.) MNR to prepare interim Crown Lease to authorize the area that will encompass the footprint of the facility being constructed including work area, camp and laydown area etc. (Please complete Application for Crown Land) (survey required) and then MNR will prepare a Waterpower Lease Agreement. Work Permit required for connection line. (Please complete Application for Work Permit - Part 1 and Road or Trail Construction - Part 4) Easement required for connection line (survey required) (Interim LUP possibly) (Please complete 2 Application for Crown land for a LUP and for an Easement (what is the boundary and area in ha?)	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Project Permitting	09-Sep-11	3.5 Construction Strategy Easement required for flooded area (survey required) (Interim LUP possibly) (Please complete 2 Application for Crown land for an LUP and for an Easement) (What is the boundary and area in ha?).. Proponent must review MNDFM claim maps for area of entire project and provide mitigation measures as required. From a lands perspective, please be advised that the completion of the above mentioned application is a preliminary information gathering exercise. The proponent will be required to supply MNR with additional information as we work together through the lengthy process of obtaining the required disposition and tenure documents for the Ivanhoe River - The Chute - Hydroelectric Generating Station Project.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Design - Project Description	09-Sep-11	3.5.1 Clearing and Grubbing Any removal of merchantable trees will require the appropriate licensing. In order to facilitate licensing requirements, the following information will have to be acquired and forwarded to the MNR: a) Shapefile of total area to be clear (ha) (including the inundation area/transmission line/ROW) b) Collection of timber cruise data for merchantable trees (>=10cm@dbh) (# of trees by species, diameter at breast height)	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6
Design - Aggregate	09-Sep-11	3.5.2 Aggregate Borrow and Laydown Areas Since the area to be cleared is already licensed under a SFL, the SFL holder must be offered the opportunity to harvest the forest resources, the SFL holder on the area to be harvested must be offered the forest resources for use in facilities under their SFL document.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix C

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Project Permitting	09-Sep-11	3.5.2 Aggregate Borrow and Laydown Areas For laydown area complete Part 1 of Work Permit Application - see section 3.5 for further details.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Aboriginal Consultation	09-Sep-11	3.5.2 Aggregate Borrow and Laydown Areas Details of the Crown land aggregate that may be required for this project are not specific enough to enable meaningful Aboriginal consultation. Additional Aboriginal consultation may be required prior to the issuance of permits and approvals by MNR.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.4
Design - Aggregate	09-Sep-11	3.5.2 Aggregate Borrow and Laydown Areas Aggregate for construction of roads, embankments, yards, coffer dams and concrete structure backfill will be primarily sourced from re-used granular material created during road construction and site excavation. All aggregate material used for this project must come from an approved aggregate permit site. Please identify all sources of granular material for this project. An application for an aggregate permit may have to occur. Please refer to the following link for information regarding the application process http://www.mnr.gov.on.ca/en/Business/Aggregates/index.html or contact the Chapleau MNR office.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix C
Design - Aggregate	09-Sep-11	3.5.2 Aggregate Borrow and Laydown Areas Several borrow material areas have been identified within 5 km of the project site. What specific borrow areas have Xeneca identified for extraction of material? Are these existing aggregate permits existing and being operated by another aggregate permit holder? Will Xeneca be applying for an Aggregate Permit within these identified locations? Please identify these areas as a application for an aggregate permit will be required for these sites to extract any material for the project.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix C
Design - Cofferdams	09-Sep-11	3.5.3 Cofferdams Cofferdams will be constructed of cargo bags filled with clean, granular material re-used from excavation activities. Where is the re-used granular material coming from to fill the cargo bags? The amount of granular material need to fill the cargo bags for the coffer dam will be a huge amount based on the size design. This material can't be generated from on site excavation. Please identify a "permitted" excavation source of granular material for the cargo bags. Again, an aggregate permit will be required for any extract any aggregate from Crown Land.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix C

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Mitigation Measures	09-Sep-11	3.5.3 Cofferdams Recommendations from NRSI Annex III must be followed i.e. only clean material only. Installation/removal must be done outside of the in-water timing restriction. Cofferdam type A preferred because of sediment transport issues. Sediment control measures will be required. Details of installation /removal must be submitted prior to any sort of approval being granted. No mitigation is described which is integral to the environmental report and must be provided prior to any further approvals and permits being granted.	This version of the Draft ER was withdrawn; the comment no longer applies.	11 and 12
Class EA - Mitigation Measures	09-Sep-11	3.5.4 Dewatering There are insufficient details of mitigation strategies to adequately assess this section. Will sediment control measures be used? Will dewatered areas go directly into river or into setting ponds? Additional information will be required prior to permitting/ approvals.	This version of the Draft ER was withdrawn; the comment no longer applies.	11 and 12
Design - Project Description	09-Sep-11	3.5.5 Excavation of Powerhouse and Tailrace Canal Discussion of "appropriate methods" are never defined. No description of necessity for in water blasting, excavation methods, etc. Without this information, any assessment of impacts is impossible.	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6
Design - Aggregate	09-Sep-11	3.5.6 Concrete Production An aggregate deposit owned by Custom Concrete has been identified in Foleyet. Please identify specific location for the Custom Concrete aggregate deposit in Foleyet.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix C
Project Permitting	09-Sep-11	3.5.7 Connection Line The proponent needs to confirm if there are any existing forms of tenure (i.e. land use permit, leases, etc) and has the area been removed from staking (MNDM). Must complete Part 1 and Part 4 of a Work Permit application. Land Tenure for the Connection Line will be an easement but in the interim a Land Use Permit may be issued (see section 3.5 for further details). Provide MNR with a detailed site plan of the connection line.	This version of the Draft ER was withdrawn; the comment no longer applies.	7

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Project Description	09-Sep-11	3.5.7 Connection Line The information provided on poles insufficient. OMNR needs information on the spacing of poles, the types of poles that will be used, how the poles will be installed, any fire hazards associated with lines, etc? No mitigation measures were presented. This section is insufficient for determination of impacts or for permitting/approvals.	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6
Class EA - Construction Waste	09-Sep-11	3.5.8 Management of Waste Materials During Construction As pointed out in previous meeting with Xeneca, the Foleyet Waste Disposal Site is at capacity and currently being operated under an Emergency Certificate of Approval to accommodate the immediate needs of the residents and businesses of Foleyet. This facility will not accept construction waste from the Chute project. Alternate waste disposal locations will need to be sought and this will be the responsibility of proponent.	This version of the Draft ER was withdrawn; the comment no longer applies.	4.2.4 and 5.2.4
Project Permitting	09-Sep-11	3.5.9 Water Crossings Must complete Part 1 and Part 4 of a Work Permit application for each water crossings. This includes an understanding of watershed area and a description of the proposed replacement. This information will be required prior to any permits or approvals being granted.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Design - Aggregate	09-Sep-11	3.5.9 Water Crossings Upgrades to access road.. Any aggregate material used for the upgrades of Primary/Access roads must come from an approved aggregate permit site.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix C
Project Permitting	09-Sep-11	3.5.9 Water Crossings Work permit application will be required for all installation and/or upgrading of water crossings. The information presented in the ER is insufficient to satisfy information requirements associated with work permits. The proponent must identify crossing locations, watershed area, structure type/size, proposed methods of installation and mitigation strategies for District review. The information as presented is incomplete.	This version of the Draft ER was withdrawn; the comment no longer applies.	7

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Aquatic Ecosystem - Erosion and Sedimentation	09-Sep-11	3.6 Operation Strategy It is mentioned that a desktop erosion survey was conducted in order to identify sensitive areas. OMNR is unconvinced that a desktop erosion study is adequate in order to characterize the substrate associated with Ivanhoe River basin and how this substrate may be mobilized or otherwise affected by "modified peaking" operations at the Chute site. What are the sediment regime characteristics i.e. grain/boulder sizes, propensity for transport at various flows, etc.? What is the real potential for erosional impacts? how sensitive are the shorelines within the zone of influence? How will accelerated erosion be monitored and mitigated? What plans does Xeneca have to modify the plant operations if accelerated erosion is observed? How will erosional impacts be retified if observed? How will potential accelerated erosion impact fishery habitat and overall water quality?	This version of the Draft ER was withdrawn; the comment no longer applies.	11.4.1.1
Class EA - Baseline Survey	09-Sep-11	3.6 Operation Strategy Lidar survey for the channel is not considered reflecting true picture of the channel section, due to reflection from water surface and reflection from tree canopies. Acutal field survey will be desired for for the hydraulic modelling of the river. Limitations of the Lidar survey has been recognized in Head pond inundation Mapping report Annex 1-D Section 4.5. Further field validation may be required prior to the issurance of any OMNR approvals and authorizations.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Aquatic Ecosystem - Erosion and Sedimentation	09-Sep-11	3.6 Operation Strategy Depending upon the nature of banks soil and variation in the levels due to operation; just desktop analysis is not sufficient to determine the extent of shoreline erosion.	This version of the Draft ER was withdrawn; the comment no longer applies.	11.4.1.1
Design - Water Flow	09-Sep-11	3.6.1 Site Operation Strategy The Chutes will be operated such that flows downstream of the G.S. will fluctuate sustantially and thus resemble a peaking facility. The oft-used term "modified run-of-river" is problematic; a lay person would expect flows similiar to natural river, but this will not be the case for most of the river.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Operation Plan	09-Sep-11	3.6.1 Site Operation Strategy The operational strategy is suggesting essential operation of the facility: as 8 hrs operation, 12 hurs peaking during week days and full peaking during weekends.	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6 plus Appendix D

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Water Flow	09-Sep-11	3.6.2 Summary of Hydraulic Characteristics The long term average flow of 29.7 m3/s agrees well with the MNR's average flow of 28.2 m3/s. Given the few years of flow data, it is very difficult to predict 100-year flood and low flows.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
General - Definition	09-Sep-11	3.6.3 Operating Parameters for Water Control Structures The MNR has used a consistent seasonal approach of : WINTER (January to March), SPRING (April to June), SUMMER (July to September), Fall (October to December). It would be best to keep these seasons rather than the ones outlined in this section.	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Design - Dam Details	09-Sep-11	3.6.3 Operating Parameters for Water Control Structures As part of the EA process, MNR has consistently requested a preliminary dam operating plan. An acceptable dam operating plan has not yet been received. A preliminary dam operating plan typically describes the magnitude, duration, frequency, timing and rate of change of flows and levels - including both generated and spilled flows. Without this information, it is not possible to determine what environmental effects may be expected from the operation of the facility and to propose any effective mitigation or monitoring strategies. A preliminary dam operating plan deemed acceptable by OMNR will be required prior to the granting of approvals under the Lakes and Rivers Improvement Act.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix C
Design - Water Flow	09-Sep-11	3.6.3 Operating Parameters for Water Control Structures At June 15th meeting, Xeneca had committed to demonstrate through modelling that operation of the Chutes would not impact the downstream conservation reserve by ensuring Q80 flow over Third Falls into the Conservation Reserve (when those in-flows are available at the Chute site). The modelling was intended to determine what minimum flows would be required at the Chute under various inflow conditions to sustain the Q80 flows at the crest of Third Falls. The flow modelling/ minimum flow requirements at Chutes is missing from the ER. This must be addressed prior to any permitting or approvals.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Water Flow	09-Sep-11	3.6.3 Operating Parameters for Water Control Structures OMNR has requested a breakdown of flows outside the four seasons presented to fully understand the proposed operating regime. This includes peaking month parameters for base flow, peaking frequency, peak flow, etc. This information has not been provided and will be required to fully understand the implications of the proposed facility prior to LRIA approvals. The absence of this information prevents any assessment of potential impacts of the proposed program from being determined. A completed preliminary Dam operating plan is required prior to the issuance of permits and approvals.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Operation Plan	09-Sep-11	3.6.3 Operating Parameters for Water Control Structures Last paragraph: " The definition of operating parameters affecting the channel upstream and downstream of the facility has not been completed.....". If this is true what this EA is for?	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6 plus Appendix D
LRU - Water Management Plan	09-Sep-11	This also tells me that intent of Water Management Plan has not been met during this EA and proponent is willing to take this activity at a later stage.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.8, 11.6.8 and 12.6.8
LRU - Water Management Plan	09-Sep-11	For operating parameters, SAC and proponent of Mattagami WMP should be consulted.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.8, 11.6.8 and 12.6.8
Design - Water Flow	09-Sep-11	3.6.5 Compliance Considerations This section states with certainty that "Operations of the Chute will have no adverse effects on the downstream conservation reserve.." This is a bold statement and should be removed from the ER document as there is no evidence to support it. MNR assumes that there will certainly be some degree of impact on the CR and Park downstream due to the manipulation of flows under a modified peaking regime at the Chute - by definition. However, MNR has stated that it will be assumed that ecological integrity of the downstream protected areas will be reasonably sustained ONLY IF Xeneca ensures that a Q80 flow is available at at all times at the crest of Third Falls as discussed and agreed upon. The only time Q80 will not be available at the crest of Third Falls is when those flows are not available at the Chutes site (extremely low flows). As per the commitment under section 3.6, Xeneca committed to undertaking modelling to determine what type of flows would need to be released at the Chute throughout the year to ensure that Q80 flows are sustained at the crest of Third Falls.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Operation Plan	09-Sep-11	3.6.5 Compliance Considerations The operation plan cannot be accepted as presented because important information is missing from the document. Irrespective of class EA process, this information will be required for any permitting.	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6 plus Appendix D

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
LRU - Water Management Plan	09-Sep-11	<p>3.6.6 Provisions for Plan Reviews, Amendments and Plan Renewals</p> <p>Xeneca was informed during the EA scoping meeting of the following: Detailed information must be provided within the Project Descriptions (Public Information Displays) and the Environmental Report to meet the requirements of an administrative amendment to the Mattagami Water Management Plan: Must include at a minimum: 1) Description of the zone of influence; 2) Water management objectives for the zone of influence; 3) Development and evaluation of options related to flows and levels; 4) The flows and levels under normal operating conditions for the proposed project</p> <p>Recommend that Xeneca initiate conversations with the Mattagami Standing Advisory Committee ASAP and provide them a PD as per our SIP meeting</p> <p>Jan 26th 2011 – revise PD to provide details as to the requirements needed to fulfill 23.1 approval and include any pertinent details provided by the SAC.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.8, 11.6.8 and 12.6.8
Class EA - Significant Concerns	09-Sep-11	<p>3.6.6 Provisions for Plan Reviews, Amendments and Plan Renewals</p> <p>MNR is unconvinced that this level of detail has been provided in the ER, specifically with respect to the description of the zone of influence, water mgmt objectives for the zone of influence, and the full development and evaluation of options related to flows and levels. This information remains outstanding and may not be sufficient to grant a Section 23.1 LRIA approval for this project without further planning requirements.</p> <p>Xeneca was asked to approach the Mattagami SAC and provide them with pertinent details of the project and seek advice and feedback with respect to amendment requirements. This has yet to occur.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Aboriginal Consultation	09-Sep-11	<p>4.1 Consultation Guidelines</p> <p>The first paragraph states that the Waterpower Class EA involves '... gathering information from ...Aboriginal stakeholders to identify environmental concerns and to inform project decision makers.' On page 47 Section 4.2. the ER states that "The consultation programs undertaken by Xeneca were intended to meet all mandatory consultation requirements as well as to assist in the identification and resolution of environmental concerns relating to the project." It would appear that the Class EA process undertaken by Xeneca has not been successful in providing timely information and obtaining feedback from Aboriginal communities in this regard. On page 24, the ER states that ' No consultation with individual Aboriginal community members together information specific to lands and water use has been undertaken. Also, on page 70, the ER states that '...the Aboriginal community engagement plan will formally begin after the issuance of the Notice of Completion at which time the report will be provided to the communities for review.'</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	17.4
Public Consultation	09-Sep-11	<p>4.2 Consultation Strategies</p> <p>Under Xeneca's public consultation plan, it is mentioned that "The objective of public consultation is to identify and address public concerns and issue and to provide the public with an opportunity to receive information about, and make meaningful input into, the project review and development." We would suggest that the public was not fully aware of the project details and was not able to provide meaningful input. For example, the zone of inundation changed from one PIC to the next. The PIC in Folyet and Chapleau on July 6 and 7th presented different information than the first PICs held - did the public notices identify that significant changes were made? Some members of the public may not have known that the project descriptions had changed and therefore they might have not attended both PICs. The transmission corridor is supposed to be scoped into this EA process, yet the corridor was not shown at some of the PICs. The last PIC was held on July 7th, yet the ER was released on July 14th - only 7 days later.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	17.3

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Public Consultation	09-Sep-11	<p>4.2 Consultation Strategies</p> <p>How does Xeneca rationalize that the public had adequate time to review the proposals being presented and submit informed comments prior to the release of the ER?</p> <p>MNR recommended several times, as did members of the public, that PIC should be held in Timmins as several users of the Ivanhoe River reside in Timmins. A PIC was never held in Timmins. Why not?</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	17.3
Class EA - Significant Concerns	09-Sep-11	MNR feels that inadequate consultation was undertaken with respect to the project footprint (inundation zone) and the location/extent of the proposed transmission line. This should be addressed.	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Class EA - Significant Concerns	09-Sep-11	<p>4.2 Consultation Strategies</p> <p>MNR is concerned that the public and Aboriginal consultation for this project was undertaken inadequately. From the initial Notice of Commencement to the Notice of Completion, the project description has dramatically changed several times. No addendums were provided to the projects descriptions to reference these changes. For example, the inundation zone associated with the head pond went from 2.6 kilometres to over 6 kilometres very recently. Why was the project description not updated to reflect this?</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Agency Consultation	09-Sep-11	<p>4.3 Government and Agency Consultation</p> <p>4.3.2 Provincial</p> <p>What is Site Release Policy 4LC18??</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	17.5
Agency Consultation	09-Sep-11	<p>4.3 Government and Agency Consultation</p> <p>4.3.2 Provincial</p> <p>During the March 3 2010 meeting OMNR did not 'scope' work for the EA process. At that time Xeneca informed OMNR what was being done and OMNR indicated that approval of permits did not imply support for the scope of work presented by Xeneca. OMNR has consistently requested a detailed workplan of the field season to ensure that information obligations were met. This was not delivered.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	17.5
Class EA - Significant Concerns	09-Sep-11	<p>4.4 Public Consultation</p> <p>The preliminary results of OMNR Chutes survey are presented in Appendix C - the comments presented by the general public have not been included the ER. These comments and concerns must be addressed prior to any approvals/permitting.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Aboriginal Consultation	09-Sep-11	4.5 Aboriginal Engagement pg 70 Third and fourth paragraph on pg 70 - the ER states '...the Aboriginal community engagement plan will formally begin after the issuance of the Notice of Completion at which time the report will be provided to the community for review.' and ' Dialogue is ongoing and Xeneca continues to work with First Nations and Metis to ensure open dialogue, consultation and, where appropriate, business to business discussions.'These statements would seem to indicate that Aboriginal consultation required for the issuance of permits and approvals by MNR has not been completed, and in some instances, may nothave effectively commenced. Again, it is highly likely that additional Aboriginal consultation is required prior to the issuance of permits and approvals by MNR.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.4
Class EA - Significant Concerns	09-Sep-11	5.1 Identified Project Effects MNR is highly concerned that the proponent has suggested that additional analysis of potential environmental impacts from the chute development will be completed after the results 2011 field investigations....."additional assessment of effects will be undertaken subsequent to the 2011 field investigations, and further discussion is planned between the EA team and interested parties." This methodology is counter to the purpose of the EA Act, even asacknowledged by the proponent themselves. Section 5 of the ER states "the purpose of an environmental assessment is to identify all the ecosystem components that make up the environment within the project area, and evaluate how the the project would affect these valued ecosystem components..." MNR cannot understand how the purpose of the EA Act has been met if the proponent has not fully characterized and identified all the ecosystem components and evaluated how the project may affect them. All of the field work and impact analysis must, by definition, be completed prior to the release of this ER.	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Class EA - Significant Concerns	09-Sep-11	5.1 Identified Project Effects The entire screening table is rife with statements that potential impacts are "unknown due to outstanding data and information." This defeats the purpose of an EA process. As mentioned, the proponent's responsibility is to ensure all potential impacts are reasonably understood and addressed prior to finalizing the Environment Report. This test has not been met.	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Class EA - Significant Concerns	09-Sep-11	5.1 Identified Project Effects OMNR has concerns with respect to Table 4 - as the purpose of the EA is to inform and mitigate any residual effects, this is impossible where insufficient data has been collected. This may need to be remedied prior to the issuance of any permits and approvals.	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Environmental Effects	09-Sep-11	5.1 Identified Project Effects A concern presented during inter-agency consultation by the OMNR was not identified under the potential effects. Under "Significant Habitat Feature" should read - Impacts of facility construction/operation on the Ecosystem Integrity of the Northern Claybelt Forest Reserve.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	09-Sep-11	5.1 Identified Project Effects From NRSI report - Under "Aquatic and Riparian Ecosystem" should include - Impacts of facility construction/operation on the large weasel habitat/populations in riparian areas.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	09-Sep-11	5.1 Identified Project Effects A concern presented during inter-agency consultation by the OMNR was not identified under the potential effects. Under "Fish Habitat" should include - Impacts of inundation and variable flows on available habitat for all life stages of fish present in the Ivanhoe River.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	09-Sep-11	5.1 Identified Project Effects A concern presented during inter-agency consultation by the OMNR was not identified under the potential effects. Under "Fish Habitat" should include - Impacts on benthic macroinvertebrate communities across the zone of influence of the proposed project.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	09-Sep-11	5.1 Identified Project Effects A concern presented during inter-agency consultation by the OMNR was not identified under the potential effects. Under "Fisheries" should include - Impact of the proposed project on the ability of the Chutes site to sustain current angling pressure including both numbers and quality of recreationally and economically important fish species such as Northern Pike and Walleye.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	09-Sep-11	5.1 Identified Project Effects A concern presented during inter-agency consultation by the OMNR was not identified under the potential effects. Under "Water Levels, Flows and Movement" should include - Impacts associated with flow fluctuations up and downstream of the Chutes on the aquatic ecology of the Ivanhoe River including fish and macroinvertebrate.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Environmental Effects	09-Sep-11	5.1 Identified Project Effects A concern presented during inter-agency consultation by the OMNR was not identified under the potential effects. Under "Water Levels, Flows and Movement" should include - Impacts of proposed baseflows(below that which has been observed previously in the system) on the aquatic ecology and fishery in the Ivanhoe River.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	09-Sep-11	5.1 Identified Project Effects A concern presented during inter-agency consultation by the OMNR was not identified under the potential effects. Under "Water Levels, Flows and Movement" should include - Concerns of the impacts of variable flows on the mixing zone of the Montcalm Mine effluent and mixing of effluent from the Foleyet sewage treatment plant.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	09-Sep-11	5.1 Identified Project Effects A concern presented during inter-agency consultation by the OMNR was not identified under the potential effects. Under "Tourism" should include - Loss of revenue to local operators as a result of lost fishing opportunities and aesthetically pleasing locations to place clients.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	09-Sep-11	Table 4 Identified Project Effects Where Xeneca commits to a best management practice, this BMP should be available for review elsewhere in the ER to ensure that the intent of mitigation is achieved.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	09-Sep-11	Table 4 Identified Project Effects Where mitigation is "To Be Determined" - it is very difficult to determine if/magnitude of residual effects if mitigation is not yet known. This will likely be required prior to any further permits and approvals being granted.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	09-Sep-11	Table 4 Identified Project Effects Under "Water Quality" - Xeneca refers to an 'ersoion survey' - details required. If this is the desktop study in Annex 1.C, this study is not acceptable as a method to determine erosion potential of the proposed project.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Environmental Effects	09-Sep-11	Table 4 Identified Project Effects Under "Water Quality" - Proponent suggests that impacts of dam operation will be determined when final dam operating plan is provided through permits and approvals. This information is needed by the OMNR prior to permits and approvals to facilitate the process.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	09-Sep-11	Table 4 Identified Project Effects Under "Fish Habitat" - Proponent suggests brook trout is not in the project area - given that the proponent has not assessed the dynamic inundation zone, nor has the proponent conducted any directed brook trout sampling in any fashion, this statement cannot be made.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	09-Sep-11	Table 4 Identified Project Effects Although they may increase site specific small mammal densities initially, brush piles created adjacent to the cleared right of way will limit re-growth of forest cover and should not be used.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	09-Sep-11	Table 4 Identified Project Effects Incomplete. Access Road assessment not completed so cannot comment on the environmental impacts, or mitigation measures.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	09-Sep-11	Table 4 Identified Project Effects Incomplete. Connection Line construction assessment not completed so cannot comment on the environmental impacts, or mitigation measures.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	09-Sep-11	Table 4 Identified Project Effects Loss of vegetation and terrestrial wildlife during powerhouse construction....Mitigation measures should include timing restrictions regarding clearing of forest cover. Timing restrictions need to address bird nesting periods, or assessment of area to be cleared prior to activities to ensure no nesting species are present. This applies to head pond clearing as well where forest cover is to be removed.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Environmental Effects	09-Sep-11	Table 4 Identified Project Effects Table 4: natural vegetation and habitat linkages - Mitigation measures should include the use of erosion control measures to ensure exposed soils do not enter waterways, and to ensure successful re-colonization by native veg species.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	09-Sep-11	Table 4 Identified Project Effects Table 4: Aquatic and Riparian Ecosystem - 2011 assessment not completed/included in report so cannot comment on the full environmental impacts, or mitigation measures.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	09-Sep-11	Table 4 Identified Project Effects What is the range of fluctuation of water levels and how it will be limited without losing economic benefits? Headpond volume 275,000 m3 is based on a bathymetric survey or Lidar Survey. What is headpond contour level. Will proponent support the argument that this volume will be filled in few hours? What are these few hours for emptying and filling headpond volume?	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Area of Inundation	09-Sep-11	5.1.1 Inundation OMNR expressed concern at the lack of information on the expanded inundation zone at the June 15 meeting and questioned how impacts could be determined.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix O
Class EA - Area of Inundation	09-Sep-11	5.1.1 Inundation Length of upstream inundation i.e. 6.4 km is based on LTAF of 30.2 . Moreover due to survey and model limitations as explained in Inundation report Annex 1-d, " The full extent of the Chute site can not be determined". From this stems the need for a detailed survey and authentic hydraulic modeling.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix O
Design - Water Flow	09-Sep-11	5.1.2 Flow Effects At the June 15 meeting, Xeneca committed to providing modelling evidence to assist in the determination of base flows for the site given that the flows proposed were far below that previously observed in the system. This is not reflected in the proposed operating plan. The plan does not address requested information including peak flows, frequency of peaking activity and expected impacts (both biotic and abiotic). This information will be required prior to any consideration of permitting/approvals.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Water Flow	09-Sep-11	5.1.2 Flow Effects For any understanding of mitigation, we require an understanding of how peak flows will be limited. For example, will activity be limited to once daily? Specifics are required, in addition to monitoring plans to determine to what degree erosion may be taking place. As presented in the EA, this information is missing.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Water Flow	09-Sep-11	5.1.2 Flow Effects Needs detailed study and analysis. This simple description does not work.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Aquatic Ecosystem - Surface Water Levels, Flows and Movement	09-Sep-11	5.1.3 Aquatic Habitat (Ecological Flow/Water Level Requirement and Effects) In order for mitigation to be adequately assessed, the proponent must first describe what the specific impacts may be, and how operational strategy will address these specific impacts. Generic statements are insufficient to determine potential impacts. Commitments made are vacuous and without any binding commitments which make any mitigative measures questionable. Agreement must be reached with OMNR prior to any sort of approvals/permits being granted.	This version of the Draft ER was withdrawn; the comment no longer applies.	11.4.1, 12.4.1 plus 9.2, 11.2 and 12.2
Aquatic Ecosystem - Surface Water Levels, Flows and Movement	09-Sep-11	5.1.3 Aquatic Habitat (Ecological Flow/Water Level Requirement and Effects) Timing of releases during a 24-hr cycle is of special concern. Known impacts occur to salmonids when velocities are highly variable during the daytime hours. Thus - if peaking activity is to be conducted during the daytime hours, there is a potential for large effects that are not described by this ER.	This version of the Draft ER was withdrawn; the comment no longer applies.	11.4.1, 12.4.1 plus 9.2, 11.2 and 12.2
Design - Project Description	09-Sep-11	5.1.4 Project Footprint We require a detailed site plan of the footprint (area, location of buildings, etc). Land tenure will be a lease but in the interim a Land Use Permit may be issued (see section 3.5 for further details)	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6
Aquatic Ecosystem - Fish Injury or Mortality	09-Sep-11	5.1.5 Fish Entrainment and Impingement and Turbine Mortality As no specific turbine is planned, no impacts can be described and thus no mitigation/residual effects determined. This information will be needed prior to any permitting or approvals.	This version of the Draft ER was withdrawn; the comment no longer applies.	12.4.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Social and Economic - Public Health and Safety	09-Sep-11	5.1.6 Navigation Stakeholders have suggested river is used for angling through the ice during the winter months - what will be the impact of peaking operations on the safety of these practices? What mitigation will be used to ensure public safety at downstream locations removed from the Chutes site?	This version of the Draft ER was withdrawn; the comment no longer applies.	9.7.5, 11.7.5 and 12.7.5
Natural Environment - Surface Water	09-Sep-11	5.1.9 Surface Water Quality Document describes potential for impacts on water quality as a result of shoreline erosion. Pre-planning and an understanding of the composition of the shoreline may be able to largely mitigate these effects. This must be explored prior to permitting/approvals. A desktop erosion study is not adequate for the purposes of permitting and approval.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.2, 11.2 and 12.2
LRU - Aesthetics	09-Sep-11	5.1.10 Area Aesthetics Preliminary results of the OMNR/Xeneca use survey are presented in Appendix C - the area at the Chutes site is used heavily for picnicking because of the aesthetic value. The impacts on losing this value are not described.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.6, 11.6.6 and 12.6.6
Stakeholder Consultation	09-Sep-11	5.2 Specific Consultation Issues and Resolutions Commitments made by Xeneca in June 15 meeting to address OMNR concerns related to flows and outstanding baseline information are not addressed by this ER. This must be remedied prior to any permits/approvals being granted by the OMNR.	This version of the Draft ER was withdrawn; the comment no longer applies.	17
Design - Decommissioning	09-Sep-11	5.4 Effects of Environment on Project There is potential for climatic changes and significant alterations to average flows in the Ivanhoe River. Xeneca has modelled their development and forecast for return on investment based on historical flow records. If climate change results in severe flow alterations to the Ivanhoe river such that the project is no longer commercially viable, what are Xeneca's plans? Has Xeneca set aside adequate finances to ensure proper site decommissioning? What assurances do the people of Ontario have that the facility will be retired and decommissioned in a responsible fashion either due to potential climatic changes or the natural end of the life cycle for the facility?	This version of the Draft ER was withdrawn; the comment no longer applies.	1.4
Class EA - Residual Effects	09-Sep-11	6 Residual Adverse Effects and Significance Table 5 Those issues from Table 4 that have 'unknown residual effects due to outstanding data and information' have not been included in Table 5, thus making the listing of potential significant residual effect appear shorter than the reality that may occur as data does become available. These issues need to also be noted in this table to represent a clearer picture of the what the potential significant effects may consist of.	This version of the Draft ER was withdrawn; the comment no longer applies.	Tables 31 and 40

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Residual Effects	09-Sep-11	6 Residual Adverse Effects and Significance Table 5 Incomplete as all elements of Table 4 not discussed here.	This version of the Draft ER was withdrawn; the comment no longer applies.	Tables 31 and 40
Class EA - Cumulative Effects	09-Sep-11	7 Cumulative Effects The discussion on cumulative effects is insufficient. If Third Falls is being assessed as part of the cumulative effects matrix, then why has the Third Falls facility not been considered as part of the EA process. What measures are being put in place to monitor for the potential manifestation of cumulative affects? How will the project be modified if cumulative effects materialize or are greater in impact/scope than previously anticipated? In section 7.2 Xeneca claims that "If built, Third Falls GS would create an inundation area that would reach to the downstream side of the Chute." Xeneca has moved forward with public consultation on the Third Falls site in their PICs. It seems that these projects are linked and thus should be assessed as one project in one EA process unless it can be confirmed that the Third Falls development is not being pursued. MNR is highly concerned that the EA process for both developments is being piecemealed.	This version of the Draft ER was withdrawn; the comment no longer applies.	13
Class EA - Cumulative Effects	09-Sep-11	7 Cumulative Effects Under "Erosion and Sedimentation" - suggest the significance of the residual is "unable to be determined" given the lack of information presented in the ER.	This version of the Draft ER was withdrawn; the comment no longer applies.	13
Class EA - Cumulative Effects	09-Sep-11	7 Cumulative Effects Under "Protected Area" - suggest significance of residual could be High unless evidence of no impact is presented. Modelling evidence to support that peaking activity will have no impact remains outstanding.	This version of the Draft ER was withdrawn; the comment no longer applies.	13
Social and Economic - Employment	09-Sep-11	7 Cumulative Effects Under "Employment" - suggest that impacts of construction of the facility at a known site used by the tourism industry be assessed. This may push the residual effect to 'neutral' or 'negative'.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.7.3, 11.7.3 and 12.7.3

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Cumulative Effects	09-Sep-11	7 Cumulative Effects Those issues from Table 4 that have 'unknown residual effects due to outstanding data and information' have not been included in Table 6, thus making the listing of potential significant residual effect appear shorter than the reality that may occur as data does become available. These issues need to also be noted in this table to represent a clearer picture of the what the potential significant effects may consist of.	This version of the Draft ER was withdrawn; the comment no longer applies.	13
Aquatic Ecosystem - Fish Habitat	09-Sep-11	7.2 Assessment of Potential Cumulative Effects Under "Fish Habitat" - suggest that the impact of an additional project on habitat below the Chutes could be significant as because of altered flows associated with operation, not just construction.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Fisheries	09-Sep-11	7.2 Assessment of Potential Cumulative Effects Suggest inclusion of "Fisheries" - if Third Falls GS is constructed, it will alter value and availability of spawning/rearing habitat for important fish species (Walleye and Northern Pike).	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4.3, 11.4.3 and 12.4.3
Social and Economic - Economies	09-Sep-11	7.2 Assessment of Potential Cumulative Effects Under "Local, regional or provincial economies" - suggest inclusion of the loss of revenue to local economies if clientele avoid 'developed' areas because of loss of aesthetic value associated with inundation areas.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.7.7, 11.7.7 and 12.7.7
Aquatic Ecosystem - Water Temperature	09-Sep-11	7.2 Assessment of Potential Cumulative Effects Under "Water Quality" - suggest inclusion of expected changes to thermal regime associated with higher residence times in Chutes headpond and Third Falls headpond.	This version of the Draft ER was withdrawn; the comment no longer applies.	11.2.4 and 12.2.4
Class EA - Monitoring Plan	09-Sep-11	8.1 Construction Monitoring No specifics are provided which make it very difficult to assess adequacy of programs. Detailed information must be provided as part of the approvals/permitting process.	This version of the Draft ER was withdrawn; the comment no longer applies.	16

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Monitoring Plan	09-Sep-11	8.2 Post Construction/Operation Monitoring OMNR will require monitoring of aquatic and terrestrial community post-construction to ensure that impacts are mitigated. This must be described prior to any approvals/permitting.	This version of the Draft ER was withdrawn; the comment no longer applies.	16
Class EA - Monitoring Plan	09-Sep-11	8.2 Post Construction/Operation Monitoring Post construction monitoring should include monitoring of impacts to wetlands and associated habitat features as well as re-establishment of wetlands where required and as identified by District MNR. This monitoring should occur until wetland re-establishment has been deemed to occur or until failure is determined at which point remediation should be considered. Extent of wetland impact cannot be determined at this point due to incomplete data submission.	This version of the Draft ER was withdrawn; the comment no longer applies.	16
Project Permitting	09-Sep-11	9 Regulatory Approvals and Permits In Table 7: List of Potential Regulatory Approvals under Permit and Legislative Requirement - Provincial Public Lands Act (PLA) - Lease - Ministry of Natural Resources should be listed as this will be the form of tenure for the project area.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Project Permitting	09-Sep-11	9 Regulatory Approvals and Permits Separate LRIA approval will be required for earthen emankment.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Class EA - Commitments	09-Sep-11	10 Commitments pg 118 Xeneca mentions that they are committed to ongoing reporting including a Project Implementation Report. Who will receive this? What measures will be taken if discrepancies with the ER are identified? Will this be available for public scrutiny.	This version of the Draft ER was withdrawn; the comment no longer applies.	18.2
Class EA - Commitments	09-Sep-11	10 Commitments pg 120 Consultation section - The second bullet re: ' continuing to engage with specific stakeholders on relevent issues' is very vague. It is not clear whether this includes Aboriginal Communities or not. This should be made specifically clear.	This version of the Draft ER was withdrawn; the comment no longer applies.	18.2

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Commitments	09-Sep-11	<p>11 Commitments pg 120</p> <p>The ER states 'Aboriginal and First Nation engagement was undertaken with each community's leadership as part of the business to business Aboriginal consultation initiative by the proponent. A comprehensive engagement initiative with each community located within or having traditionally used the project area has been underway since issue of the Notice of Commencement and will continue beyond Notice of Completion and into project implementation.' The list of Aboriginal communities given to Xeneca for consultation with respect to this project is larger than just the B2B communities. As well the B2B discussions themselves do not necessarily identify the concerns, interests and possible infringements that the communities must have the opportunity to identify. Again, this underlines that the consultation efforts undertaken during this Class EA are likely insufficient for MNR to issue approvals and permits.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	18.2
Class EA - Significant Concerns	09-Sep-11	<p>Appendix E</p> <p>It does not appear that the record of Aboriginal Consultation and Engagement undertaken to date contains all of the documentation listed in the Contact and Consultation log summaries by community and Tribal Council. As well, it is does not appear that each Aboriginal community was provided a Notice of Commencement. This would be in contravention of the Class EA process as required on page 33 of the Waterpower Class EA.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Aboriginal Consultation	09-Sep-11	<p>Appendix E Ivanhoe, The Chute -Aboriginal Consultation Engagement Summary</p> <p>In the listing of communities, Missinabie Cree FN is listed. This should be Moose Cree FN.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	17.4
Aboriginal Consultation	09-Sep-11	<p>It is not clear in the ER how consultation with Metis Nation of Ontario — Timmins Community Council has been organized.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	17.4
Class EA - Baseline Survey	14-Oct-11	<p>Some of these smaller rivers are critical but do not support year round, resident populations. I believe it is an evolutionary response to low water, and possibly water quality issues that sturgeon will emigrate from these rivers during fall/winter months. Andrew Eccelstone is defending his MSc on this very topic next week at Trent U. Although the smaller rivers do not support year round occupation, they are critical in a metapopulation sense. Therefore, netting at this time of year may not definitively defend absence of sturgeon within the river. However, it will identify presence if in they are successful with netting and may possibly locate overwintering or staging areas, if present.</p> <p>Responding to your other e-mail, we have seen lake sturgeon on spawning areas in July (observed it this year). It is often a response to flows and may be their second spawning about that year.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Baseline Survey	14-Oct-11	The timing of the field work in the fall period is consistent with accepted methods/protocols used elsewhere to assess resident sturgeon populations. However, based on my experience I am not confident that this time of year is best to determine if sturgeon are present in a small-moderately sized watershed where we have little knowledge of presence/absence. I would have suggested the spring or early to mid summer is best to determine if fish are present. The summer sampling period would not necessarily confirm year-round residency whereas if we were to catch fish in the fall, I would tend to accept "residency". Having said that, sturgeon may utilize smaller systems such as the Ivanhoe River for spawning and/or perhaps nursery habitat. We have found that in this scenario, fish have typically migrated downstream to larger systems by the end of the summer. Given we know very little about sturgeon in the Ivanhoe, it may take more than one season of assessment to determine presence/absence or residency. I am not aware of what has been done previously.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Baseline Survey	14-Oct-11	The current drought is not going to help the assessment crew. The Ivanhoe is currently running at 2.5 cms at the Chutes which is well below the long term October median flow of 24.4cms. This will limit the crew's accessibility to certain sections of river. As well, if they are using 6' deep nets, only the pools would be deep enough for a proper net set which negates sampling other areas of the river where sturgeon could be present. Sturgeon are typically very active in the fall, commonly found feeding in shallow waters. We can expect with drought conditions that sturgeon movements within a river system would be limited. Some populations will stage in the vicinity of a spawning site in the fall. However, given the extremely low flows fish will probably not be moving too far (to staging areas) if they are present. This will limit catchability. Given the combination of timing and low flows, I suggest more than this fall's assessment will be required to determine presence/absence. To complicate our ability to make a reasonable determination of presence/absence, these fish may in some years run a river like the Ivanhoe and not in other years. This is related in part to hydrological conditions, population size and to the behaviour (homing) of particular spawning cohorts.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Baseline Survey	14-Oct-11	Looking at a much smaller tributary of the Groundhog, Scorch Creek and Scorch Lake (head water) do periodically support sturgeon. So, the fact the Scorch supports these fish suggests to me indicates there is no reason why we cannot have fish in the Ivanhoe unless, it is shown that Third Falls is a barrier to upstream movement. Which brings me to another point, we should be able to model (using a combination of hydraulics functions and fish dynamics) hydrological conditions which would permit/prevent sturgeon accessing the river upstream of Third Falls. This may be another way of getting at the answer to presence/absence without having the benefit of multiple field seasons.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Baseline Survey	14-Oct-11	NRSI has not indicated what types of gill nets they intend to use. I would suggest both the NA standard core benthic gill net (for juveniles and sub-adults) and the large mesh sturgeon nets for adults. We typically use a modified RIN protocol (a combination of NA standard and large mesh nets).	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Baseline Survey	14-Oct-11	NRSI has indicated they intend to use side scan sonar. I am not sure of the benefit of this technology and cannot comment on the utility of this tool. NESI is currently assessing the utility of high resolution side-scan sonar for bathymetric mapping purposes.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Baseline Survey	14-Oct-11	NRSI has indicated they intend to document barriers. I expect what may be a barrier now would not be a barrier in other seasons under different hydrological conditions. I would suggest they focus on Third Falls. Head (height), channel width, depth and velocity measurements may be useful if barrier modelling is of interest.	This version of the Draft ER was withdrawn; the comment no longer applies.	9

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Baseline Survey	14-Oct-11	Experience tells me we cannot rule-out anecdotal evidence. We should not dismiss information provided to us without some rationale. Larry's note to you is currently our only source of information that sturgeon could be in the Ivanhoe upstream of Third Falls. I believe it warrants further investigation.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Stakeholder Consultation - Part II Order	27-Oct-11	It is our understanding that Xeneca is in discussions with MOE and members of the public regarding the potential impacts on sturgeon in the Ivanhoe River resulting from the potential hydro development at the Chute. With all due respect, these discussions are taking place within the context of a Part II Order request under the Waterpower Class EA process and do not directly involve MNR at this stage. If MOE's EAAB branch requests input from MNR specialists to assist in their review of the Part II Order, then we are happy to offer our expertise in that capacity.	This version of the Draft ER was withdrawn; the comment no longer applies.	2.2
Aquatic Ecosystem - Fish Habitat	27-Oct-11	Kris Vascotto was approached by your consultants (NRSI) to review their proposals for gathering further sturgeon presence/absence information and Kris solicited some input from MNR's fishery specialists. This was simply done in good faith to assist Xeneca/ NRSI in undertaking this work. NRSI was planning to go to the field anyway and only gave us a few days to review their sampling methodology as a "heads up". As you know, MNR also has serious concerns about potential impacts on sturgeon that will need to be addressed prior to any issuance of Location Approval under the LRIA. Xeneca can choose to address MNR's concerns in the Waterpower Class EA process or as a separate component. At any rate, Xeneca will need to ensure that the uncertainties regarding potential impacts on sturgeon in the Ivanhoe River have been thoroughly investigated and addressed (using MNR-approved methodologies) before any MNR approvals will be considered.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4.1, 11.4.1 and 12.4.1
Class EA - Zone of Influence (ZOI)	29-Jun-12	Consensus on ZOI – Our recommended next step is for you to aim to reach consensus on the anticipated ZOI, based on best available information for each site to date, including hydraulic modelling and other considerations, and recognizing that it is an iterative process. Could start with a presentation of all of relevant material and work done to date. To inform these discussions, districts will require sufficient time to review the following in advance: <ul style="list-style-type: none"> • Confirmation of scope of project and EA (e.g., 1, 2, or multiple EAs, decisions made on any uncertainties) • Preliminary Dam Operating Plan(s) (recognizing that it may be tweaked during impact assessment and mitigation discussions) • Seasonal and monthly operational flow graphs demonstrating typical flow ranges for each month, • Hydraulic modelling output (maps and data) along with sensitivity analysis and a description of uncertainty with output • existing condition compilation reports of all information collected to date (districts might have these – 2012 if possible), and • Overlay maps showing extent of Xeneca's preliminary anticipated ZOI (based on hydrology and other considerations) along with features identified from the existing condition reports or any other existing information collected to date • Rationale for scope of site investigation to date within ZOI boundary. 	All the points listed were addressed in subsequent agency negotiations. Consensus on the upstream extent of the ZOI was reached during agency negotiations in 2012 after additional hydraulic modeling work demonstrated definitively that The Chute headpond would not impact the ecological functioning of Rapid A (a set of rapids located immediately upstream of the headpond). Hydraulic modeling also confirmed that Brook Trout spawning in the Shawmere River would not be impacted as it located more than 1 km upstream of the proposed headpond. Consensus on the downstream extent of ZOI was reached in 2013 after the Operating Plan was updated to reflect that no changes to flows and levels would occur downstream of Third Falls. This was accomplished by proposing to "re-naturalize" the flow such that the flow exiting Third Falls is no different than the flow that would occur if the Project did not exist. A technical rationale has been included in the main text of the final ER detailing how the ZOI was established.	3.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Impact Assessment	29-Jun-12	<p>Impact assessment and mitigation – Xeneca to present additional work completed to date and staff to comment on assessment of impacts and proposed mitigation. To inform these discussions, districts will require in advance:</p> <ul style="list-style-type: none"> • Updated existing condition reports, updated overlay maps of anticipated ZOI and existing features • A table in advance summarizing potential effects identified and Xeneca’s assessment of impacts and proposed mitigation • Rationale for scope of site investigation to date within ZOI boundary 	<p>Ivanhoe draft ER was issued at the beginning of June 2013 for agency review. It included all existing condition reports and potential effects assessment table. The brook trout study was not included but was submitted after additional field work in fall 2013. All information is now completed in the final ER. The existing conditions report and the effect assessment were updated in the Final ER.</p> <p>General ZOI rationale has been discussed with MNR around June 2012 and a specific ZOI rationale for Ivanhoe is included in the final ER.</p> <p>Related to this item, MNR requested and the proponent provided 1:10,000 scale maps of the ZOI.</p>	n/a
Class EA - Zone of Influence (ZOI)	29-Jun-12	<p>High-level considerations</p> <p>The MNR will require an understanding of the total anticipated ZOI boundary, the proposed system alterations within that boundary relative to reference conditions, and the associated impact assessment, when making decisions in accordance with its legislation.</p> <p>Key components including flow, biology (fish, wildlife and their habitats), sediment, temperature and water quality are used to delineate the ZOI and guide sampling and monitoring activities.</p> <p>Quantitative models should be used as tools to help characterize the downstream ZOI and are not the sole determinants of the downstream ZOI boundary.</p> <p>Any uncertainty around the extent of the anticipated ZOI due to modelling constraints at Greenfield sites during the planning phase should be addressed through a commitment to post-construction effects monitoring.</p> <p>By limiting the scope of the potential effects and impact assessment to the first 30 km downstream of a proposed dam you may not acquire sufficient information for MNR to make decisions under its legislation. Some zones will extend beyond 30 km.</p> <p>At a minimum, a qualified consultant should complete a reconnaissance of the total anticipated ZOI to assess habitat features and determine where additional site investigation may be required to confirm species presence, habitat use, ecological condition or geometry and to provide the information required for an assessment of effects and the development of mitigation opportunities.</p> <p>With respect to mitigation, hydraulic modelling is but one piece to be considered within a more comprehensive decision process. Sound field data are still required to characterize the features that are proposed to be altered and to assess impacts.</p> <p>The MNR will require an understanding of the total anticipated ZOI boundary, as well as proposed system alterations within that boundary, when making decisions in accordance with its legislation. It is also necessary that this information be used as the basis for conducting Aboriginal consultation and any public consultation that is completed to satisfy MNR’s requirements.</p>	<p>The total zone of influence has now been identified and clearly communicated to all stakeholders through public meetings, individual meetings, correspondence, web site postings, and phone calls. Zone of Influence maps, physical descriptions and operating plans are all currently available to the public and are contained in the final ER</p>	3.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Zone of Influence (ZOI)	29-Jun-12	<p>Articulating the Downstream ZOI</p> <p>Xeneca's proposal focuses on the use of hydraulic modelling to assess impacts on selected features within 30 km downstream of each proposed site, and does not appear to focus on articulating the full downstream ZOI boundary. The total ZOI may in fact extend greater than or less than 30 km downstream, depending on the river and the proposal.</p> <p>If information about the full extent to which the system will be altered is not made available for agency review and/or public and Aboriginal consultation it will be difficult for MNR staff to determine if the project is consistent with the purposes of the various pieces of legislation we are responsible for. For example, when considering applications under the LRIA, MNR staff will need to understand whether the post-development conditions will continue to provide for the protection of public rights and the interests of riparian owners. Therefore, it is expected that the public and riparian owners will have the opportunity to observe and consider the implications of the project within the entire ZOI. The MNR will also have to meet the Crown's duty to consult with and/or accommodate Aboriginal communities. We review applications for ecosystem-based water level and flow objectives that will support the ecological sustainability of aquatic systems for the perpetuation of fish, wildlife and other natural resources dependent on the aquatic system, and consider whether the project will require an authorization under the ESA. All of these considerations require full clarity from Xeneca on the total extent to which the river system is proposed to be altered.</p> <p>Xeneca's proposal focuses on the use of hydraulic modelling to assess impacts on selected features within 30 km downstream of each proposed site, and does not appear to focus on articulating the full downstream ZOI boundary. The total ZOI may in fact extend greater than or less than 30 km downstream, depending on the river and the proposal.</p>	<p>The total zone of influence has now been identified and clearly communicated to all stakeholders through public meetings, individual meetings, correspondence, web site postings, and phone calls. Zone of Influence maps, physical descriptions and operating plans are all currently available to the public and are contained in the final ER. Interests of Riparian land owners have been considered and none are deemed to be affected. Consultation has occurred with all identified Aboriginal Communities and a partnership agreement is in place with all affected aboriginal communities.</p>	3.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Zone of Influence (ZOI)	29-Jun-12	<p>Zone of Influence Definition</p> <p>The Class EA defines the ZOI as the “immediate area beyond the site directly affected by the project”.</p> <p>Consistent with the MOE, it is our view that the total ZOI is comprised of any area which is subject to potential impacts if the project is developed and operated as planned.</p> <p>The total ZOI includes the upstream and downstream boundaries of hydrologic influence, as well as areas outside of the hydrologic boundary that could be impacted by factors such as thermal, water quality and sediment regimes, and biological considerations such as barriers to fish migration. The total ZOI also includes all areas on land that would be impacted due to such things as the project component footprints, new roads, laydown and stockpiling areas, and construction camps.</p> <p>This is consistent with previous messaging on the ZOI provided through various EA Coordination meetings and a joint MNR/MOE Director’s letter to Xeneca dated July 22, 2011. This letter noted that key components including flow, biology (fish, wildlife and their habitats), sediment, temperature and water quality are used to delineate the ZOI and guide sampling and monitoring activities.</p> <p>In the aquatic environment, the MNR considers the ZOI to extend to where the alterations in physical, chemical and biological processes are not discernable from natural variability. This may include connected lakes and rivers, wetlands, and riparian lands where a significant measurable effect can be detected as a result of a dam and its operations. Specific indicators can be selected to assess how the proposed future state compares to the reference state to confirm the anticipated geographic extent of influence, as part of a proponent’s field program.</p>	<p>Extensive work was done in 2013 to address the ZOI comments on the Draft ER and to include updated information on ZOI in the Final ER. A total ZOI map with all footprint areas is included in the final ER.</p> <p>Agencies provided updated guidance on how to deal with ZOI in 2013. A guidance document was issued by MNR on June 6, 2013 and endorsed by MOE on June 13, 2013 (see agency communications documentation). The guidance was closely followed as outlined in the ZOI discussion in the Final ER. It discusses the extent of work done within the ZOI and the rationale for determining that no effects occur outside of the ZOI.</p> <p>The agencies were consulted on multiple occasions to reach consensus on both, the upstream and downstream ZOI. In addition, all roads and lines maps were presented for review to agencies. Any comments received were immediately incorporated and updated. The Final ER contains the ZOI as consistent with the outcome of these agency negotiations.</p> <p>As to the study of physical, chemical and biological processes, the ZOI discussion in the main text of the ER outlines the work done to address these parameters. It included detailed physical studies (such as LIDAR, sediment transport, temperature, hydrology and hydraulics), chemical studies (such as detailed multi-year water quality baseline study program) and biological studies (such as aquatic and terrestrial habitat surveys, mapping and assessment). Also rationalized in the ZOI discussion is the areal extent of the ZOI and the need for impact assessment within this area (but not outside).</p>	3.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Zone of Influence (ZOI)	29-Jun-12	<p>Determining the Anticipated Downstream Zone of Influence</p> <p>There is no single formula for determining the anticipated total ZOI that can be ascribed to all situations. In some cases, it might be possible for the proponent and all agencies to reach a consensus on the extent of hydrologic influence (often referred to as the downstream hydrologic ZOI or variable flow reach) based on an overall assessment of the watershed. An example would be if the downstream ZOI is expected by all parties to end at a receiving large river or lake, or an existing dam. For the purpose of articulating and communicating the anticipated boundary to satisfy MNR's needs with respect to the LRIA, this approach to articulating the hydrologic component of the downstream ZOI will likely suffice, if consensus has been reached. Proponents should consult with the MOE to confirm an approach that satisfies the Class EA and other agency considerations.</p> <p>Hydraulic modelling in the unsteady flow state can be a useful tool to predict the geographic extent of potential downstream changes to flows and water levels where peaking operations are proposed (i.e., the downstream hydrologic ZOI). Though there may be some uncertainty with data output, it provides a new set of predicted information that can be combined with other considerations to help inform our understanding of the total downstream ZOI. Hydraulic modelling will also be useful for the impact assessment phase of planning a waterpower project.</p> <p>Recognizing that all models have some degree of uncertainty and that there are specific challenges associated with modelling proposed peaking conditions at Greenfield sites that may result in additional uncertainty, output should be accompanied by the results of calibration and validation, a sensitivity analysis, full disclosure of the model limitations, and a commitment to post-construction effects monitoring. MNR and MOE hydrology staff should be engaged in model review.</p> <p>After modelling downstream hydraulics, the predicted downstream hydrologic ZOI and its potential uncertainty should be considered along with potential changes to the temperature, sediment, and water quality regimes. If these extend beyond the hydrologic ZOI then the total anticipated ZOI boundary should be extended accordingly. The anticipated ZOI should be further refined to consider the other biological effects such as the potential for the dam to block fish movement. MNR biologists and other MNR and MOE technical staff should be engaged in these discussions and will consider information on existing conditions. As the project is further defined and new information about existing conditions is acquired, the extent of the anticipated ZOI may be readdressed.</p> <p>Any uncertainty around the extent of the anticipated ZOI due to modelling constraints at Greenfield sites during the planning phase should be addressed through a commitment to post-construction effects monitoring.</p>	Based on hydrological and hydraulic modelling and Hec Ras, the Zone of Influence for the project is now clearly understood and rationalized as per the advice of the OMNR. Modeling results and the ZOI rationalization contained within the Operating Plan has been clearly reflected in consultation with all stakeholders and aboriginal communities	3.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Impact Assessment	29-Jun-12	It is expected that a proponent of a Greenfield waterpower project will collect and assess information through preparation of its Environmental Report that will meet the needs for MNR's subsequent review and approval of the project under applicable legislation. Data and information collection can be designed and carried out in a coordinated manner within the EA process. The findings can be presented in a single body of documentation that supports decision-making under relevant legislation and minimizes delays for proponents at the permits and approvals stage.	<p>The Waterpower Class EA guidance documentation provides information on the scope of impact assessment. This guidance was followed closely in the Final ER.</p> <p>MNR also requested specific information on areas related specifically to post EA approvals, such as SAR and water management planning (WMP). Where SAR work could be included in the EA process, this was done with the remainder to be completed in the approvals process.</p> <p>MNR requested specific additional consultation on WMP. This additional consultation was carried out as requested in 2013 (MNR staff attended).</p> <p>In late 2010, MOE provide draft technical guidance for the permit to take water (PTTW) process related to hydrology, hydraulics and water quality. This guidance was followed closely and all suggested studies were carried out and submitted for review.</p> <p>The proponent is not aware of any post EA approval processes that were not followed up on to the extent reasonable/possible at the EA stage.</p>	n/a
Class EA - Impact Assessment	29-Jun-12	Recommend that the full Class EA process be followed for any area that may be affected by a proposed waterpower project, including the downstream ZOI and extensions to the downstream ZOI.	The Waterpower Class EA process and work scope was followed carefully and succinctly for the entire ZOI. A draft ER was submitted to identify deficiencies and any relevant agency advice was followed up on and addressed. Any issues related to the definition of the ZOI were resolved through additional agency negotiations in 2013 and by MNR providing additional clarification guidance on June 6, 2013 (which was followed closely).	n/a
Class EA - Zone of Influence (ZOI)	29-Jun-12	By limiting the scope of the assessment to the first 30 km downstream of a proposed dam you may not acquire sufficient information for MNR staff to make decisions under its legislation. The MNR will require an understanding of proposed system alteration within the total anticipated ZOI boundary when making decisions on permits and approvals. The ZOI may be greater than or less than 30 km downstream, depending on the river and the proposal.	The matter of downstream ZOI was subsequently resolved through agency discussions and negotiation. In summary, the downstream ZOI was largely eliminated by changing the proposed Operating Plan. The updated plan in the Final ER commits to re-naturalize the flow at Third Falls so that no flow alteration occurs downstream of that point. This info is described in detail in the ZOI section of the Final ER.	3.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Baseline Survey	29-Jun-12	<p>A desktop exercise can not be relied on to adequately scope information gaps, potential effects, and areas that require additional field investigation to satisfy the LRIA and ESA. At a minimum, a qualified consultant should complete a reconnaissance of the total anticipated ZOI to observe features of relevance and to determine where more intensive site investigation may be required to understand ecological condition, confirm species presence and habitat use, assess the sensitivity of features, and gather other information required to inform impact assessment and mitigation discussions. A records review should also be undertaken by the proponent for the entire ZOI.</p> <p>It is expected that proponents will provide rationale where it determines that detailed site investigations are not required. We suggest this be discussed with district staff early in the EA and regulatory process in case assessment is considered insufficient to support decision-making.</p> <p>The proposed approach identified the following features of interest: potential fast water habitat, wetland habitat, major water users, land owners, and/or tributaries/confluences. By limiting the scope of the assessment to these features or any features that can be observed from Google Earth imagery, you are unlikely to acquire sufficient information for MNR to make decisions under its legislation.</p>	<p>These comments related to the scope and adequacy of field work on roads and transmission line corridors. This information was subsequently updated with the requested field studies. The full assessment is included in the Final ER.</p> <p>The rationale referenced is included in the ZOI section in the main text of the Final ER.</p> <p>All the features of interested listed were addressed in detail after the comment was made. The new information is included in the updated effects report included in the Final ER (see NRSI report).</p>	9
Class EA - Impact Assessment	29-Jun-12	<p>When considering applications for approval under the LRIA, MNR will require an understanding of the degree to which the system is proposed to be altered relative to a reference condition. MNR will consider the potential effects on the hydrologic, thermal and sediment regimes, as well as the biology. Flow is generally considered the dominant variable that determines form and function of a river. MNR will consider how the pattern of flow is proposed to change, including the magnitude, frequency, duration and timing (seasonality) of occurrence of various environmental flows, as well as the rate of change from one flow magnitude to another. We suggest that proponents consider all of these components when assessing potential impacts of their projects and preparing their application for LRIA approvals. How these alterations affect our ability to meet the purposes of the LRIA and other interests identified in Sections 1 will be considered.</p> <p>From an ecosystem perspective, MNR will review LRIA applications associated with dams to ensure applicants provide for ecosystem-based water level and flow objectives that will support the ecological sustainability and biodiversity of aquatic systems for the perpetuation of fish, wildlife and other natural resources dependent on the system. This requires an understanding of the current ecological condition. MNR will also consider effects to existing fish passage, wetlands, species at risk or their habitat, wildlife habitat, and cumulative effects.</p> <p>The document entitled "OMNR Field Data Collection Requirements for Waterpower Projects (draft, May 2010)" recognizes that not all projects will require the same level of data collection, and therefore it is not envisioned that all of the studies described in this document would be needed for every project. Rather, this document provides a checklist of sorts to aid the reviewer in ascertaining the specific study needs on a site by site basis. It is recognized that sufficient baseline information needs to be collected to enable meaningful assessment of environmental effects and mitigation success.</p> <p>The document entitled "OMNR Field Data Collection Requirements for Waterpower Projects (draft, May 2010)" also recognizes that to assess the effects of waterpower development on the existing biological characteristics, an approach is needed that incorporates assessment of project-relevant components of the biological community, which may include primary production, benthic invertebrates, and vertebrates including fish and other wildlife.</p>	<p>This comment was related to possible deficiencies in the Draft ER. It is believed that all of the issues in this comment were subsequently addressed.</p> <p>Hydraulic – updated hydraulic models were provided. Thermal – a temperature model was provided to show the degree of alteration resulting from development (it was minimal). Sediment – a geomorphology study was carried out and comments on the study were followed up on. On aspect related to the limited amount of data downstream of Third Falls. This issue was addressed by changing the Operating Plan and reducing the downstream ZOI. Environmental Flows – this issue related to the limited data available in the downstream ZOI and was addressed by changing the Operating Plan and the ZOI.</p> <p>Ecosystem – the requested analysis is contained throughout the ER and is consistent with the Waterpower Class EA process which was followed in detail. The comment is understood to relate to the data deficiencies which were subsequently addressed as listed above.</p> <p>MNR recommended guidance documentation was applied and followed where applicable.</p>	n/a

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Baseline Survey	29-Jun-12	To satisfy the ESA when considering an application for approval under the LRIA, the MNR will expect that the total anticipated ZOI has been surveyed and assessed to determine if protected species or habitat are present, associated impacts and management strategies have been considered, and the appropriate steps have been taken to avoid a contravention of the ESA.	The total anticipated ZOI for the Ivanhoe River projects has been surveyed. Surveys were completed within the 6.4km headpond upstream of The Chute, within the 44km headpond upstream of Third Falls (The Chute being the upstream limit of the 44km headpond) and within 500m downstream of Third Falls. Lake sturgeon distribution surveys were completed from the base of Third Falls to the confluence with the Groundhog River downstream. Surveys have been completed to identify if protected species and habitats are present within the study area (lake sturgeon spawning and distribution surveys and bird surveys) and impacts to species at risk (SAR) and their habitat have been considered (Section 6.1.2.1.1). The appropriate steps have been taken to avoid impacts to SAR (i.e. run-of-river operations at Third Falls to mitigate impacts to the Conservation Reserve and the lake sturgeon population downstream). Xeneca will be in contact with MNR to determine the appropriate steps required to protect potential bat SAR habitat that may overlap with the project area.	9
Natural Environment - Terrestrial Wildlife	29-Jun-12	<p>There are a number of tools available for evaluating the significance of wetland and wildlife habitat that can be provided upon request. While identification of significance is not a regulatory requirement for waterpower projects, the tools may still be useful for understanding existing form and function which will help to predict sensitivity to impacts. The Ontario Wetland Evaluation System provides an approach to identifying the important structure, composition and functional components of a wetland that may be impacted by dam operations or construction.</p> <p>The Significant Wildlife Habitat Technical Guide provides an approach to assessing the significance of wildlife habitat identified through the field investigation. Draft significance criteria schedules for Eco-Regions 3E, 5E, 6E and 7E are now available for interim use.</p>	<p>Significant Wildlife Habitat Assessment has been completed using the Significant Wildlife Habitat Technical Guide and can be found in Appendix IX of the Natural Environment and Impact Assessment Report. Impacts to significant wildlife habitat have been outlined in the report as well (Section 6.1.2.1.1).</p> <p>All terrestrial vegetation communities including wetlands were assessed using the Provincial Ecological Land Classification System and the Boreal Factsheet for Northern Ontario. Impacts to wetlands were determined based on footprint loss from dam components, loss due to inundation and headpond clearing and daily fluctuations.</p>	9.3.2, 11.3.2 and 12.3.2

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Environmental Effects	29-Jun-12	<p>MNR must also protect natural amenities when making decisions under the LRIA. To satisfy this purpose, an inventory and assessment of natural amenities should be conducted within the total anticipated ZOI. Natural amenities are areas of streams, rivers, and lakes that can be used and enjoyed by the public and riparian owners and include beaches, vegetation, trees, unique physical features, scenic areas, areas for swimming, areas for canoeing and boating, and areas for fishing. The natural amenities may be a feature of the water, the bed, or the shores and the banks. Natural amenities on shores of lakes and rivers should not be destroyed or altered without a full evaluation of the trade-offs involved with evaluation of options for mitigation.</p> <p>It is the proponent's responsibility to scope the data and information collection appropriately, considering the best information available. The extent of field work should be scoped appropriately, in order to collect sufficient information about the existing ecological condition and specific values within the anticipated ZOI and to allow for impact assessment or future monitoring. The proponent will also consider in their scoping the agency coordination meeting, the site information package, response to the Notice of Commencement, and initial advice from the public. MNR district staff will have shared available data as well as fisheries management objectives and any other site-specific management objectives.</p> <p>Table 3 of the Class EA provides an analytical framework through which the proponent may scope the potential project impacts thereby defining the determination of the ecological information requirements. This can help inform the proponent's requirements for pursuing an LRIA approval. The Class EA states that where information is unavailable for the proposal it should be noted and, where the information is of significance to the proposal, the gap will need to be addressed. It is recommended that the proponent consult with relevant federal and provincial agencies and municipal authorities, appropriately qualified persons, potentially affected and interested individuals and the public when completing the potential effects identification matrix.</p>	The Potential Effects Matrix has been completed and is included in the Final ER.	Potential Effects Matrix, Table 12

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Hydraulic Modelling	29-Jun-12	<p>The next three steps in Xeneca's proposal resemble steps in the "Project Assessment" phase of the Class EA process. In these steps Xeneca proposes to: 4) calculate effects by modelling hydraulics in the steady state mode to determine the approximate range of flows and levels expected at each feature; 5) optionally complete a more detailed hydraulic analysis to determine if the fluctuations are sufficiently attenuated, and 6) propose a mitigation strategy where required.</p> <p>MNR's main concern with respect to this proposed approach as it relates to MNR's permitting and approval requirements is the sole use of modelling to assess impacts and consider mitigation.</p> <p>We agree with your observations that the downstream ZOI differs from the upstream ZOI in several ways and that many downstream impacts can be mitigated through facility operations. While hydraulic modelling can be useful to inform and to perhaps illustrate potential effects under varying scenarios, model output still comes with some degree of uncertainty, particularly at Greenfield sites.</p> <p>To assess how flow and level fluctuations might affect a feature or alter the system, biologists will need to understand the degree of uncertainty associated with the model output. Any report of model output should be accompanied by the results of calibration and validation, a sensitivity analysis, and full disclosure of the model limitations. The author's confidence in the model and rationale for its confidence should be stated, as well as an assessment of output uncertainty and how it relates to decision-making.</p> <p>Steady flow analysis will not provide information on the range of flows and levels changed with distance and time. The preferred option is the more detailed hydraulic analysis to determine if the variability effect is attenuated (unsteady flow analysis).</p> <p>With respect to impact assessment and mitigation, hydraulic modelling is but one piece to be considered within a more comprehensive decision process. Sound field data are still required to characterize the features that are proposed to be altered, comprehend their sensitivity, and assess impacts. Mitigation strategies should be considered in consultation with hydrologists, biologists, and other stakeholders. Modeling may not be the sole determinant for all mitigation options, and detailed site-specific information may be required to provide quality data input to the model.</p>	<p>The unsteady hydraulic modeling has been completed and reviewed by MNR. The report is included in the final ER.</p>	Appendix F
Class EA - Baseline Survey	29-Jun-12	<p>Most features will require more than just high-level identification to properly assess how peaking will affect them and to have confidence in the effectiveness of proposed mitigation. For example, a fast-flowing riffle area or wetland may be observed from Google Earth, but how the proposed water volume fluctuations will modify the site-specific water levels and velocities will depend on the site-specific geometry and hydraulics.</p>	<p>Lot of works have been done since this comment was provided by MNR. Third Falls project is proposed to operate as a run of river facility as oppose to modified run of river when this comment was made. Site specific information has been collected in the critical habitat area and LiDAR information is available for the entire ZOI, which is also very precise information.</p>	9
Design - Water Flow	29-Jun-12	<p>It is agreeable that the variability in flow will attenuate with distance from the facility. Xeneca's proposal suggests that an operations strategy used to mitigate an impact on a feature (e.g. minimum flow provided to a fast water area with potential for spawning habitat) should address not only the closest fast water feature, but all subsequent features of the same type. This will likely be true in some cases, but not all. The extent to which spawning habitat suitability at a fast flowing riffle area will be affected by water volume fluctuations will depend on the feature-specific geometry and layout of suitable substrate. A minimum flow designed for the most upstream section of potential spawning habitat may not be as effective for another section of potential spawning habitat further downstream. If we knew which fast water features had the highest density of spawning activity, we could ensure that the operational mitigation strategy optimized habitat suitability at that feature.</p>	<p>This comment was made mostly for the river reach downstream of the Third Falls project when the project was initially proposed to operate as modified –run-of-river facility. Lot of works have been completed since this comment was provided and we now believe these issues have been adequately addressed in the final ER.</p>	Appendix D

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Monitoring Plan	29-Jun-12	Any remaining uncertainty around the extent of impacts (e.g., anticipated water level fluctuations) during the planning phase should be addressed through a commitment to post-construction effects monitoring.	Daily water level fluctuation at The Chute headpond will be monitored not to exceed 1 m and at Third Falls headpond will not exceed 25 cm due to operations. This is included in the post construction monitoring plan.	16
Stakeholder Consultation	29-Jun-12	We suggest that for transparency with respect to public and Aboriginal consultation requirements that satisfy MNR's needs under the LRIA, all potential effects (positive, negative, significant or not) be included in documentation that supports the LRIA application. MNR staff may use this information when reviewing applications and considering whether the project is consistent with the purposes of the LRIA. This is consistent with the information requirements for the Class EA Environmental Report.	Xeneca has included in its Final ER all known potential effects, positive, negative, significant and minor.	17
Class EA - Supporting Facilities	16-Aug-12	MNR recommends that transmission line assessment and consultation be coordinated with waterpower EA.	The Resource Stewardship EA does not apply but Xeneca is working to refine the routes and lines. They are planned to avoid sensitive areas and water crossings where possible. Some areas where there is potential for SAR will be identified in conjunction with MNR. Permitting and ground-truthing surveys will be done in these areas in Spring/Summer 2013. (The current refined routes are included in the OWA Class EA as status reports prepared for Xeneca by KBM and NBS. In most cases, multiple routes are being considered for development and these are presented in the KBM/NBS reports provided in the Class EA.)	4 and 5

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Transmission Line	16-Aug-12	<p>MNR Suggested planning a “corridor” as opposed to a single line. Corridor planning (ie. 300m wide) allows for minor variances in the line routing due to unexpected terrain or otherwise. This may avoid future environmental planning or requirement for additional permits and approvals if minor line re-routing becomes necessary.</p> <p>Mentioned that the (March) report from KBM shows the transmission line overlapping some conservation reserves and potentially one park. MNR mentioned that there are certain approval processes for transmission corridors in protected areas. This was outlined in the MNR’s comments on Xeneca’s ER for the Chute project.</p>	<p>The powerline running from Ivanhoe: The Chute GS to HONI’s Weston Lake Substation is part of a planned network for Xeneca’s Kapuskasing River and Ivanhoe River GS projects. These projects have a total planned capacity of just under 30 MW and include three on Kapuskasing River (Lapinigam Rapids, Middle Twp. Buchan and Near North Boundary) and two on the Ivanhoe River (The Chute and Third Falls). Currently they are planned to connect via one 77 km long 69 kV collector line from the Lapinigam site to The Chute site. At The Chute GS site the line voltage is increased to 115 kV (the voltage of the connection point) and the line is routed in an ESE direction to Weston Lake Substation, on provincial Hwy 101, an additional distance of 48 km. Both lines are designed on simple single pole mounting system with no steel tower structures required, minimizing both installation and maintenance costs and environmental footprint.</p> <p>The rationale for selection of the line route between the Chute GS and Weston Lake DS was considered very carefully. Various factors were considered during the design exercise with final routing based primarily on environmental factors. The design process for the line routing included the following steps: As a corridor of cleared forest on either side of the line is required, initially a straight line route between the two connection points was selected (a distance of about 40 [km]). This theoretical route would generally minimize the overall development corridor footprint of the project and also minimizes line losses for the projects, maximizing the electricity benefit to the public. A straight line does not however, address local environmental values along its route.</p> <p>In summary, by minimizing the overall length of the possible line route, combined with a detailed routing process further avoiding or minimizing contact with local environmentally sensitive areas, this line corridor is deemed to have the lowest environmental impact possible for connecting the Ivanhoe: The Chute GS to the Weston Lake DS.</p> <p>For details, please refer to the letter.</p>	Appendix C
Stakeholder Consultation	16-Aug-12	MNR concerned about whether another PIC held in Timmins as well .	No PIC in Timmins. Timmins people came to Foleyet. Advertisement was put in Timmins. Offer to hold meeting in Timmins was declined.	17
Class EA - Zone of Influence (ZOI)	16-Aug-12	MNR concerned about the ZOI clearly shown to the confluence of Groundhog River.	Yes, the ZOI showed to Groundhog River.	3.4
Aboriginal Community	16-Aug-12	<p>The Crown’s duty to consult with Aboriginal communities has a high rigor of test. MNR is responsible for Aboriginal consultation where MNR-administered permits and approvals may be issued. Some procedural aspects of undertaking consultation may be delegated to the proponent.</p> <p>On-going discussions are occurring with regional MNR staff and Xeneca with respect to developing FN consultation protocols/templates.</p>	Xeneca recognizes that the Crown’s Duty to Consult sets a high threshold, and that ongoing consultation will be required during the MNR administered permits & approvals process. Xeneca looks forward to working with the MNR and consultation First Nation and Aboriginal Communities to met the Crown’s Duty to Consult requirements, particularly as it relates to the procedural aspects of that undertaking.	9.9, 11.9 and 12.9

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Operation Plan	16-Aug-12	How does the Operation Plan we were given compare with PIC presentation?	Almost the same. We did expand panels from last PIC to better express what was done in the interim.	4, 5 and 6 plus Appendix D
Stakeholder Consultation	16-Aug-12	Did the PIC show complete picture of studies in 2012 including results?	PIC was end of July 2012, included studies in early 2012, and an overview of what planned and what was completed. A subsequent public meeting was held October 16, 2013 at which additional studies, project updates and water management planning was presented.	17
Stakeholder Consultation	16-Aug-12	PIC would be vehicle to adequately address public concerns. Risk to not addressing concerns in advance of ER submission is increased likelihood of a Part II Order request.	A subsequent public meeting was held October 16, 2013 at which additional studies, project updates and water management planning was presented.	17
Stakeholder Consultation	16-Aug-12	Can you change the PD so that it combines both projects without an additional Notice of Commencement?	The original PD contained both.	17
Stakeholder Consultation	16-Aug-12	Is there a second notice of commencement for combining two sites?	(The NoCs, issued in 2010, were for both projects.) Xeenca accepted advice from MOE and notified the public showing that Chute and Third Falls were combined.	17
Class EA - Hydraulic Modelling	16-Aug-12	MNR recalled previous concerns about the input for model data, how have they been addressed?	Two hydrology reports. One done by Hatch, one done by CPL. The second confirmed the results of the first.	Appendix F
Class EA - Hydraulic Modelling	16-Aug-12	MNR concerned 10 years' data is limited. Now have real time flow data to calibrate the 10 year gauge data.	CPL looked at this new data. We believe the hydrology work was done pretty extensively. Two water level loggers were installed at The Chute and one at Third Falls.	Appendix F
Class EA - Hydraulic Modelling	16-Aug-12	Initial modeling review focused on The Chute only and that benefited on upstream work of Third Falls. When you combine the projects, do you have gauge downstream of Third Falls?	Cannot provide the data type you need. For unsteady data, calibration can only be done after operation. Can do this type of calibration after the dam is built. Calibration was done for 46km. Since Third Falls is on the same river, no additional calibration is required for downstream of Third Falls to Groundhog River.	Appendix F

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Hydraulic Modelling	16-Aug-12	MNR Concerned about the accuracy of the Hec-Ras modeling which does not seem to take into account for these features in CR area. Failure of acceptable modeling makes any assessment of environmental impact in CR impossible. Modeling must be to OMNR standards to determine impacts. Fast water features key to functionality of river and ecological integrity. As presented HEC-RAS modeling suggests daily fluctuations circa 50cm 10-15km downstream of 3rd falls within CR. This will clearly impact tributaries, fast water features and associated values. One possible method of mitigation is to reduce daily fluctuations through operational modification (run longer, lower). In addition sensitivity analysis is still missing.	We received these comments from MNR. We discussed the sensitivity and uncertainties of the model. We reported to MNR that Xeneca commits to a have the consultant include a discussion of model uncertainty and limitations in each report and to consider what work-up can be done on sensitivity (typically this is limited to the roughness assumption in the model). Xeneca also commits to a model verification exercise at commissioning to ensure that the operation does not cause level fluctuations that are greater than those agreed to in the operations plan. Xeneca believes that the focus of the discussions should be the environmental impacts on fast water features, not modeling limitation.	Appendix F
Class EA - Hydraulic Modelling	16-Aug-12	Initial comment response on hydraulic modeling was for the Chutes only. Concerned additional information would be required for different sites.	Acknowledged that the limitations of the model relate to the amount of input data, which varies from one site to another. However, the verification at commissioning will provide assurance. We had a meeting with Sajjad and Brian. It was agreed the model data are accurate for Hec-Ras modeling. Agreed to use Marter as a pilot site to collect data for calibration for all sites.	Appendix F
Class EA - Hydraulic Modelling	16-Aug-12	Two reasons for collecting additional bathymetry for Third Falls area: to find pinch control points to calibrate the model; and for assisting biological assessment.	Since this comment was made in August 2012, Third Falls project operation has been changed from modified-run-of-river to run-of-river. There is no real added value for the addition field survey near Third Falls project site. MOE and MNR hydrologists has expressed in number of occasion HEC RAS modeling for the Ivanhoe River projects are of good quality. Addition survey has been done in other locations of the project since this comment was made include near near The Chute site but not near the Third Falls project site.	Appendix F
Class EA - Hydraulic Modelling	16-Aug-12	What kind of transects work done downstream in CR?	Only biology assessment and some depth information. We would adjust the OP to mitigate the effects rather than spend next year to study.	Appendix F
Class EA - Hydraulic Modelling	16-Aug-12	We need description of uncertainty with Hec-Ras modeling output to be more detailed to give us some level of accuracy and confidence if it is to be used to inform impact assessment. Without good modeling, very difficult to assess impacts. Ecological integrity, BT and sturgeon life cycle concerns are not addressed by this commitment.	The models go a long way in providing a general understanding of how the rivers function hydraulically and serve to inform the discussion. However, regardless of the level fluctuation in the model, Xeneca commits that at the Groundhog River, the level fluctuation won't be more than +/- 5 cm (The operating band at confluence would be 11cm). We are assuming that walleye are spawning at all fast water locations and will provide run-of-river flows during such times, so that no model info is required to assess spawning impacts.	Appendix F
Class EA - Hydraulic Modelling	16-Aug-12	Do we have cross section information on feature 1.7 km downstream of Third Falls? We have not collected data. It needs to be a surveyed cross section.	No, we can go back to model to see minimum flow at that feature, if Q80 base flows on that rapid is always sufficient.	Appendix F

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Hydraulic Modelling	16-Aug-12	<p>It is not always base flow, but the fluctuation of water across that feature that may impact ecological integrity. Fast water features provide good baseline points for compliance monitoring.</p> <p>When assessing impacts of proposed alterations in CR need to consider ecological integrity. Benthic communities that will be affected by fluctuating shoreline. Associated vegetation changes. Wetland changes. Tributary changes and the potential for waves in and out to contribute to stranding. Would be in your best interest to understand what effects will be in CR if you are proposing to peak.</p>	Operation of the Third Falls project has been changed and now it is proposed to operate as a run-of-river facility. There will be no hydrological alteration downstream of the Third Falls project in CR due to the operation of The Chute and Third Falls project.	Appendix F
Class EA - Hydraulic Modelling	16-Aug-12	<p>Reports suggest fast water high value habitat features upstream of Third Falls that likely support spawning and act as key habitat features for the river. Is it possible to describe daily fluctuations resulting from peaking operations? Any bathymetry results for impact assessment? Walleye – spawning habitat areas recently identified and no discussion of impacts of inundation/peaking on functionality or contribution to standing population. If functionality is lost, compensation is required. Impossible to do without knowing initial state. In addition, impacts to spawning sites around CR boundary around 3rd falls unknown, as timing was missed in past field seasons. Need to know pre-construction for any compensation/replacement. We need decision tree – what will Xeneca do, how will they compensate, what do if compensation fails, etc.</p>	Detail analysis has been conducted for these features. Habitat loss has been summarized and the compensation plan has been discussed with agencies. A Conceptual Fish Habitat Offsetting and Monitoring Plan is included in Annex III of the final ER.	Appendix F
Class EA - Hydraulic Modelling	16-Aug-12	Is the new OP strategy makes these new Hec-Ras documents output change?	The OP was based on Q80 monthly flow from last year.	Appendix F
Class EA - Hydraulic Modelling	16-Aug-12	Was the operating plan based on sustained monthly Q80 flow immediately below 3rd falls facility?	Yes, Hec-Ras and Operating Plan are consistent. The HEC-RAS will be re-run after the change to the Operating Plan is made to confirm that we can reduce the level fluctuations in that way.	Appendix F
Class EA - Hydraulic Modelling	16-Aug-12	<p>HEC-RAS modeling based on flows that are not in the operations plan provided to OMNR in advance of this meeting. HEC-RAS modeling as presented is insufficient to determine impacts on CR as proposed flows do not match modeled plan. Xeneca committed to sustained monthly Q80 flow immediately downstream of 3rd falls facility. Because modeling is done with different flows, modeling likely invalid and impacts to features cannot be determined.</p>	This comment is not relevant for the updated operating mode of the Third Falls project. Third Falls is proposed to operate as a run-of-river facility.	Appendix F

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Aquatic Ecosystem - Fish Habitat	16-Aug-12	<p>MNR concerned there is insufficient understanding in tributary areas to determine impacts.</p> <p>There are 3-4 tributaries in downstream CR area that we have reconnaissance on. Many more tributaries than presented on key features map. No inundation into tribs presented – how will impacts be determine if no info collected? NRSI detected Brook trout in tribs of 3rd falls headpond and within the mainstem of the river within the CR. MNR has repeatedly stated the presence of BT in the system – this is a data gap. Why was effort on tribs in Chutes headpond rigorous but minimal effort on 3rd falls/CR – no electrofishing, etc.</p> <p>What will happen to the Brook Trout in tributaries and main stem? Tributaries surveyed had substantial coldwater (groundwater) inputs and BT detected in mainstem directly below 3rd falls. The proposed operation and inundation for 3rd falls (~3-4m) may render these habitats unusable. Daily peaking could also greatly impact key habitat. For cold water species, you need groundwater or thermal refuge. 15 cm fluctuation derived from Hec-Ras modeling would be a concern.</p>	<p>A number of studies have been completed in the Third Falls project headpond area since this comment was made in August 2012. LiDAR survey was done in the entire Third Falls headpond area and affected tributaries. Headpond inundation maps for various flow conditions were updated to evaluate the headpond effects on the tributotries. In Fall of 2013 NRSI completed Brook Trout field study which has been incorporated in Annex ???? of ER.</p>	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Fish Habitat	16-Aug-12	<p>Asked if there is sufficient info for CR to discuss everything that might be impacted? Can a conclusion be made about the impacts to ecological integrity? Do we know enough about what's there to understand what a 60 cm fluctuation will mean?</p> <p>Of all the areas we've looked at CR portion is probably the weakest due to evolution of project. Distributions survey at downstream does lack the features that would be of concern. However sturgeon work was conducted all the way to Groundhog River which provides some information.</p> <p>Brook Trout were not targeted in CR so information is lacking.</p> <p>Whitefish?</p> <p>Limited understanding of where they could be but found in headpond.</p> <p>Detailed fisheries assessment is missing. Explained evolution of d/s ZOI from 500m in 2010 to Ground Hog River in 2012.</p> <p>Need to make sure we have enough information to support decisions and ensure the maintenance of ecological integrity. And as discussed before, RoR would address that.</p> <p>Need to look a bit beyond fish and consider benthos, sediment, thermal regime.</p>	<p>Can we design follow up study work that will address the MNR questions while not hindering the EA process? Could this be done as a mitigation plan in the EA? Can we use adaptive management by including an operation restriction table for Brook Trout until we know if they spawn or not spawn in the main stem river downstream of Third Falls.</p>	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Fish Habitat	16-Aug-12	<p>Concerned that the impacts of operations on tributaries (i.e., water, dewatering) has not been described.</p>	<p>Groundwater discharge in tributaries and predicted temperature impacts were analyzed and the memos have been included in Annex III of the final ER.</p>	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Fish Habitat	16-Aug-12	<p>Additional bathymetry will be bridge between model output and what is actually there.</p> <p>Timing is right to get bathymetry work done this year.</p>	<p>Could also use that bathymetry work to confirm conclusions made form impact assessment to date.</p> <p>Action: Dave Green to follow up with MNR on data adequacy questions regarding Biology/Brook Trout Work.</p>	9.4.1, 11.4.1 and 12.4.1

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Water Level	16-Aug-12	Inundation of tributaries must be described to validate this.	<p>It was noted that the Third Falls headpond is largely contained in the existing river bed for most of its length. The associated depth change in the channel is about 1metre and comes in at roughly the high water mark on the channel banks.</p> <p>- New terrestrial inundation happens only in the last 2 km before the dam, where the inundation causes 3-4 m of water depth which overtops the river banks in those areas.</p> <p>-Most significant change in water level occurs in the Chute headpond at low flow times of the year when the facility needs to be turned on and off (Feb/August). The level change in the Third Falls headpond is less than 0.3 metres for both the in-CR and out-of-CR options. This is because the Third Falls headpond is 3 times larger in area than the headpond at the Chute site.</p>	Appendix D
Aquatic Ecosystem	16-Aug-12	<p>Introduced studies for both sites.</p> <p>-Lake Sturgeon is known below Third Falls, but whether they present upstream is a question.-- 22 sturgeons were caught in Groundhog River downstream of Third Falls.</p> <p>- Two barriers exist for Sturgeon passage. The second one is 3-4 m vertical.</p> <p>- Brook Trout only detected in tributaries and in one spot on Ivanhoe at the feature 2 km downstream of Third Falls.</p> <p>Xeneca has not looked for brook trout despite detections. Very difficult to assess distribution of brook trout. 2012 field season and site reconnaissance showed walleye spawning habitat at various points throughout headpond. This information suggests serious data gaps that must be addressed in the CR. If unknown, a data gathering plan and proposed mitigation (decision tree) to support how operations will be altered should be in the EA to fill this oversight.</p>	<p>Brook Trout study has been performed in fall 2013. No brook trout or spawning activity was observed in any of the tributaries during spawning surveys. The majority of the available habitat within the ZOI was determined to be not suitable for brook trout spawning and redds construction.</p> <p>The results are included in Annex III of the final ER.</p>	9.4, 11.4, and 12.4
Aquatic Ecosystem	16-Aug-12	Raised a concern of lackage of impact assessment of wetlands.	<p>Loss of wetland habitat due to initial inundation and headpond clearing has been addressed in Section 6.1.2.1. Several wetland communities will experience a loss of area due to inundation; however loss does not exceed more than 20% for any wetland community within the entire ZOI. Impacts to wetland communities have also been addressed as they relate to significant wildlife habitat such as moose aquatic feeding areas, marsh breeding birds and amphibian breeding (section 6.1.2.1.1). Impacts to northern pike spawning habitat within wetlands have also been addressed (section 6.1.3.2). With regards to daily fluctuation impacts, it is anticipated that fluctuations greater than 25cm within the headponds will result in the loss of emergent aquatic vegetation (Section 6.1.3.2). The Third Falls headpond is restricted to a 25cm daily fluctuation so it is unlikely that the wetland communities will be substantially impacted. Fluctuations in The Chute headpond will exceed 25cm at times meaning some wetland vegetation may be lost. It is unclear whether or not emergent aquatic vegetation will reestablish along the margins above the 25cm fluctuation in The Chute and Third Falls headponds. Monitoring is required to determine if vegetation is reestablishing.</p>	9.4, 11.4, and 12.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Aquatic Ecosystem	16-Aug-12	Turtles and nesting waterfowl, impacts due to fluctuations?	<p>Inundation impacts to marsh breeding bird habitat have been addressed in Section 6.1.2.1.1. With regards to daily fluctuation impacts, it is anticipated that fluctuations greater than 25cm within the headponds will result in the loss of emergent aquatic vegetation (Section 6.1.3.2). The Third Falls headpond is restricted to a 25cm daily fluctuation so it is unlikely that the wetland communities will be substantially impacted meaning it is unlikely that habitat for nesting waterfowl will be impacted. Fluctuations in The Chute headpond will exceed 25cm at times meaning some wetland vegetation may be lost. It is unclear whether or not emergent aquatic vegetation will reestablish along the margins above the 25cm fluctuation in The Chute and Third Falls headponds. Monitoring is required to determine if vegetation is reestablishing and if habitat for nesting waterfowl will be available.</p> <p>According to the Ontario Reptile and Amphibian Atlas (Ontario Nature 2013) there are no turtle population ranges that overlap with the Ivanhoe River study area. No turtle species were observed by NRSI staff during field surveys. It is anticipated that turtle populations are not likely to be impacted by the construction and operation of facilities on the Ivanhoe River.</p>	9.4, 11.4, and 12.4
Aquatic Ecosystem	16-Aug-12	Black fun cisco confirmed (fall spawner). Considered extirpated in Ontario. Need to understand habitat requirements and changes to habitat suitability because subject to the LRIA.	<p>A single blackfin cisco was caught approximately 11.7km upstream of the Third Falls GS in a RIN net. Blackfin cisco is considered data deficient both federally and provincially but is ranked as THR Schedule 2 under SARA. It does not currently have a provincial ranking aside from being data deficient. In general they prefer cold, deep waters and generally reside at depths greater than 91m. There is not much known about the specifics of spawning but it occurs in the fall (temperature below 5 degrees) and it is believed that they travel to great depths (up to 175m) to spawn. The Ivanhoe River is not considered ideal for blackfin cisco spawning as depths in the river are not within the range preferred for spawning. It is not likely that they would be spawning in the Ivanhoe River and would probably migrate to the lake to do so. Since their spawning habitat is considered lacustrine, the Third Falls headpond would likely be improving spawning habitat. The Ivanhoe River also does not meet the general preferred habitat for blackfin cisco and it may have been navigating the river to migrate elsewhere. MNR did not provide NRSI with any historic records of the species in the Ivanhoe River; therefore it has been assumed that the single individual caught is not a resident of the river. It is predicted that blackfin cisco populations will not be impacted by the construction and operations of the facilities.</p>	9.4, 11.4, and 12.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Aquatic Ecosystem - Erosion and Sedimentation	16-Aug-12	<p>MNR noted that the Ivanhoe River has existing erosion problems upstream and may have serious potential for accelerated erosion along the downstream reaches. The river has a fine clay/sand substrate and the banks may slump and erode further under frequent level/flow changes. Xeneca will need to demonstrate how it has considered/ investigated erosion potential. Xeneca will also need to demonstrate that no unnatural erosion or deposition is being caused within the downstream conservation reserve by hydro facility operations (legal prohibitions). Xeneca will also need to show how they plan to monitor river morphology in order to understand if additional erosion is occurring and how they plan to address any adverse affects that may become observable.</p> <p>MNR concerned of cumulative effects of existing erosional forces combined with the effects of a modified peaking plant. MNR must be assured that there won't be any accelerated erosion or deposition caused in the CR.</p>	<p>The Hec-Ras modeling provides velocity values at various flows which is proportional to erosional energy of the flows. The modeling shows that modified operation will occur at moderate flows, causing velocities that are in the moderate range and have moderate erosional energy level. In addition, the channel morphography between The Chute and Third Falls is very flat for 30 km. The channel appears fully developed and neither erosional nor depositional. Without a bid level drop over that distance, there appears to be little risk of erosion due to the modest level and flow changes associated with modified operation (i.e. Changes in water level are pretty small).</p> <p>Action: Erosion/Sediment transport DS of Third Falls: Nava to put Geomorphology consultant (Parish) in contact with MNR (Rich Pyrce, Tim Mutters) to better understand MNR concern and plan on how to address it. Nava to facilitate the discussion.</p>	11.4.1.1
Aquatic Ecosystem - Fish Habitat	16-Aug-12	Haven't seen what walleye are where downstream of Third Falls. There is at least one other potential spawning area that has not been explored. This is a data gap flagged last spring. Identified potential spawning habitat throughout 44 km stretch, but don't know about habitat use to inform "what is lost".	Dave/Kris/Connie to come back with recommendation.	9.4.1, 11.4.1 and 12.4.1
Class EA - Zone of Influence (ZOI)	16-Aug-12	<p>MNR accepts that ZOI, at minimum, will extend to the confluence of Groundhog River. Want to know what issues being solved.</p> <p>Noted that it highlights the importance of coming to consensus on anticipated ZOI early in process (wrt one year of data collection contemplated in EA)</p>	We did exactly what we agreed last year. What we want to do is to adjust OP for mitigation. The projects are tiny compared to Lower Mattagami, which is 100 times larger. Only one year of study is contemplated under the water power class EA, and Xeneca has now done three years. As a small project developer, it has been a big effort and we need to bring it to a close and Xeneca is under a lot of pressure to meet the contractual deadlines under the FIT contracts.	3.4
Natural Environment - Ecological Integrity	16-Aug-12	Everything. MNR must ensure ecological integrity within protected areas. The PPCR Act defines "ecological integrity."	<p>Will try to limit ramp rate and day versus night variance in order to minimize impacts.</p> <p>Xeneca prefers to have Third Falls in-CR, but will proceed on outside of CR option if needed.</p> <p>For both the in-CR option and out-of-CR option, the dam will be out of CR for both options, with the powerhouse location differing in two options only.</p> <p>Action: In-CR EA: Arnold to file application for in-CR process to start outlining clearly what is proposed and benefits (eg. ROR downstream).</p> <p>In-CR tailrace: Nava, Uwe and Dave Green to review available data in tailrace area (for in-CR powerhouse location) to see if we have enough info to address CR deregulation EA.</p>	9.3, 9.4, 11.3, 11.4, 12.3 and 12.4
Federal Requirements	16-Aug-12	Clarified difference between impact assessment and mitigation effectiveness monitoring. MNR needs information to make decisions under LRIA, not sure if that type of impact assessment can occur post-EA. Requires additional discussion with MOE.	We're not adverse to doing studies next year, but need solutions for completing EA in FIT timelines.	7.3

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Aquatic Ecosystem - Surface Water Levels, Flows and Movement	16-Aug-12	MNR concerned about flows and levels downstream of Third Falls in CR.	UR mentioned they committed to long term monitoring flow at Shawmere River confluence coming into project site and they can compare to what is coming out of Third Falls.	11.4.1, 12.4.1 plus 9.2, 11.2 and 12.2
Class EA - Monitoring Plan	16-Aug-12	MNR will require monitoring plan to ensure no impacts on Ecological Integrity and also a response (decision tree) will be needed if information is minimal.	A preliminary post construction monitoring plan has been included in the final ER.	16
Design - Construction	16-Aug-12	It may be possible to allow ancillary structures creeping into CR. Will check on that and get back to Xeneca.	MNR rejected to have construction within the CR, so then the option with penstock in the CR was dropped.	Appendix C
Design - Water Flow	16-Aug-12	Xeneca to work on determining what volume of water needs to be provided.	A number of studies have completed since this comment was made in August 2012. Flow splitting analysis for the pre and post projet has been completed and presented to MNR which is also included in the final ER (See Annex ??). Flow split between to channels in the existing conditon has also been verified by the field measurmnts as well. Number of teleconfereces with the Agecies were oraganized to present these results and the minimum flow rational presented by Xeneca was accepeted by the agencies.	Appendix D
Aquatic Ecosystem - Fish Habitat	01-Mar-13	With respect to the Chutes site, MNR's main concern is loss of fast water features flooded out by Third Fall head pond and through construction of the facility. This has the potential for strong negative effects on values. Want to see fast water habitat remaining in The Chute tailrace perpetuated by maintaining wetted width in the bypass channel that is conducive to spawning activity and other ecological function. Within the Third Falls headpond, MNR stated strong concern of fast water riffle habitat being lost in the stretch being inundated. Namely, those features close to the Third Falls facility that are likely heavily contributing to the walleye population by the provision of spawning habitat. MNR is concerned that the functionality of these features will be negatively impacted by inundation.	Suggested that building up of these features may allow functionality to be retained. DG explained that the level of operational constraint and run of river operations during spawn are preserving a significant portion of the habitat in the Chute tailrace and in both the east and west channels. Some discussion on how to divide flows between the two channels should occur. DG advised that field studies have looked at effects in all seasons and factored in changes in water velocity and depths.	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Fish Habitat	01-Mar-13	Habitat compensation at the Chute and at bridges where natural features create pinch points is being considered. MNR suggested that this will be required to compensate for loss of functionality due to inundation and recommended that Xeneca engage DFO in future conversations.	Xeneca has calculated areas of habitat loss / gain. Where the right conditions of velocity, substrate and depth might still exist are being identified. It is recognized that substantial compensation work will be required but it must also be assessed if attempts to provide compensation may have negative effects outweighing benefit.	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Fish Habitat	01-Mar-13	MNR advised that a compensation plan and mitigation efforts must be included in the EA and DFO must be involved in these discussions.	DG said there is need to release his impact assessment for MNR to review. There are 11 areas of compensation to be explored. However, although the Report has been reviewed and recent changes incorporated, there are still some issues to be resolved regarding roads and tributaries.	9.4.1, 11.4.1 and 12.4.1
Class EA - Monitoring Plan	01-Mar-13	Xeneca's maximum turbine flow of 30 cms during low flow periods. He expressed concern about erosion and the need for a monitoring plan and an adaptive management approach if problems are arising.	A robust post construction monitoring plan has been included in the Geomorphology report in the final ER.	16

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Aquatic Ecosystem - Fish Habitat	01-Mar-13	Raised concern about spawning flows, noting flow is critical as an attractant to potential spawners as well as for staging, egg laying, incubation, hatch and dispersal. He does not expect flows to be an issue during high or average flow years, but problematic during low flow years.	Suggested a minimum spillway flow.	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Fish Habitat	01-Mar-13	MNR needs to know what a proposed minimum will look like in the river (modeling) as well as rationalized on net effects and a post construction monitoring plan.	The optimal outcome is a plan that will emulate ideal spawning conditions year to year. ACTION: Send out effects report with short write up with spawning table for flows and rationalized approach for minimum flows using various flow scenarios (Dave Green/ Scott Manser)	9.4.1, 11.4.1 and 12.4.1
Design - Water Flow	01-Mar-13	Clarified that the discussion of Q80 base flows were the beginning of a negotiation on flows, as it pertained specifically to the proposed Chute development. Other parameters related to flows and levels remained outstanding at that time including discussions on ramping rates, peak flows and flow duration. Xeneca subsequently decided to change the project description and consider both the Chute and Third Falls as one EA. This new combined project resulted in a need to consider a much different zone of influence and potential impacts. Therefore, min flow discussions related to the previous stand-alone Chute proposal are irrelevant at this point.	Although there is substantive negative economic impact on the project as a result of this decision, Xeneca has weighed the options based on our March 1, 2013 discussions and the MNR's decision to change its position on accepting a minimum Q80 flow regime downstream of Third Falls.	Appendix D
LRU - Protected Areas	01-Mar-13	Reminded Xeneca that it was always the intent to present proposed operations to Policy staff to ensure a comfort level that legislated obligations of the downstream protected area would be maintained into the future.	Subsequent to the March 1, 2013 meeting between Xeneca, MNR, MOE and DFO, Xeneca has committed to running Third Falls GS under a run-of-river regime. However, Xeneca reserves the right to conduct further studies, and, if it is shown impacts to ecological integrity in the downstream conservation reserve are not substantial, application may be made to ease operating restrictions.	9.6.6, 11.6.6 and 12.6.6
Design - Water Flow	01-Mar-13	Expressed concern on new information being presented of the extent of tributary inundation and stated it was very difficult to speak to the topic on such short notice without detailed information of the headpond inundation.	ACTION: NP to send Coldwater report to Rich Pyrcce ACTION: NP to send updated inundation Tim Mutter and Kris Vascotto.	Appendix D

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Water Flow	01-Mar-13	With respect to minimum flows downstream of Third Falls, MNR said proposed flows and level fluctuations inside the Conservation Reserve are under review by MNR policy division and direction will be provided. He explained that the Provincial Parks and Conservation Reserves Act mandates that maintenance of ecological integrity shall be the first priority in protected areas, a condition in which the abundance of native species and communities and ecosystem processes are unimpeded.	<p>To be clear, Xeneca is deeply concerned that lack of clarity and guidance in MNR regulation or policy will lead to the conclusion that any change to conditions in a conservation reserve will be denied. As such, there would unacceptable cost risk and time delay if anything but a run of river facility is contemplated in the OWA Waterpower Class EA for the Third Falls GS.</p> <p>As MNR District and the North East Regional Office are aware, contractual obligations under the Ontario Power Authority's Feed-in-Tariff program are unlikely to be met. Fundamental changes to MNR/MOE policy have already been significant drivers of increased costs and delays an 18 to 24 month OWA Class EA approval process that is now expected to be well in excess of 36 months.</p> <p>To await further MNR policy guidance and/or revision policy at this late juncture in the OWA Class EA approval process would, in our experience, only increases project delay. Delay, combined with no certainty of outcome if an operating facility could ever be approved at the Third Falls site, has led Xeneca to choose the aforementioned run of river operating regime.</p> <p>Notwithstanding the commitment to operate run-of-river, Xeneca will complete studies in and outside of the Conservation Reserve to identify environmental features and assess various operational regimes and with modeling of effects to minimize effect on ecological sustainability.</p> <p>Should study results indicate operation effect are within acceptable ranges, Xeneca will at that time undertake the steps required to amend permits to allow for an operating regime at the Third Falls site.</p>	Appendix D

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Aquatic Ecosystem	01-Mar-13	<p>Added that:</p> <ul style="list-style-type: none"> The Provincial Parks and Conservation Reserves Act, 2006 (PPCRA) mandates that the maintenance of ecological integrity shall be the first priority guiding all aspects of the planning and management of provincial parks and conservation reserves. Ecological integrity is defined in the PPCRA as “a condition in which biotic and abiotic components of ecosystems and the composition and abundance of native species and biological communities are characteristic of their natural regions and rates of change and ecosystem processes are unimpeded.” Downstream effects of waterpower proposals on the ecological integrity of provincial parks and conservation reserves must be addressed through waterpower review and approval processes (e.g., site release, Waterpower Class EA, LRIA review and approvals) to avoid or reduce impacts on park and conservation reserve values and maintain ecological integrity. This involves identifying and assessing the values and processes potentially affected by a proposal and identifying ways to avoid or reduce impacts. One of the most significant potential effects of waterpower projects is alteration of natural flow regimes that maintain the composition, structure and function of aquatic ecosystems. Proposals located upstream from a protected area should be planned to maintain natural daily flow regimes to avoid negative impacts to ecological integrity. 	<p>Explained Operation of the facility is daily. During both spring and fall spawn the GS is run of river.</p> <p>Of the five operational options being presented, Xeneca has picked the second most restrictive which would create a 40 cm (plus/minus 20 cm) water level change downstream.</p> <p>suggested that reviewers narrow the scope of assessment down to the months during which intermittent operation is expected to occur and to merge the information with a monitoring plan to verify expected outcomes.</p> <p>Although it would be difficult operationally, Xeneca could live with the most restrictive operating regime (limits to 15 cm fluctuation) but economics of the project would be jeopardized with strict run of river.</p> <p>Commitment: Subsequent to the March 1, 2013 meeting, Xeneca has committed to running Third Fall GS under a run of river regime. However, Xeneca reserves the right to conduct further studies and if it is shown impacts to ecological integrity are not substantial, application may be made to ease operating restrictions.</p>	9.4, 11.4, and 12.4
Aquatic Ecosystem - Surface Water Levels, Flows and Movement	01-Mar-13	Noted Hydraulic work shows water level fluctuation during intermittent operation is significant through the CR, under all scenarios presented.	<p>Xeneca undertook an options analysis to determine how much water level fluctuation could be reduced by managing turbine output. Five options were put forward to the MNR and had options reducing fluctuations to about 20 cm during a worst case scenario.</p> <p>An effects report for downstream of Third Fall is being prepared. Sturgeon studies to confluence with the Groundhog R. have been done. Reports will speak to change in benthic community and fast water features, VECs and risks of fish stranding. He acknowledged there may be some subtle changes to the benthic community.</p> <p>ACTION: DG to circulate effects report at earliest possible juncture to MNR.</p>	11.4.1, 12.4.1 plus 9.2, 11.2 and 12.2
Class EA - Zone of Influence (ZOI)	01-Mar-13	MNR is currently crafting a note with input from MOE to provide guidance on using the Metcalfe approach to determining extent of DZOI.	<p>Xeneca initially proposed a short DZOI, and, upon MNR request, Xeneca undertook substantively more downstream work with hydraulic studies going to the confluence of the Groundhog River.</p> <p>The Metcalfe approach to determining the extent of DZOI is not yet finalized.</p> <p>(NOTE: Commitment made after meeting re:operations will require that OMNR revisit this discussion with Regional technical table MNR/MOE to obtain consensus on extent of DZOI.)</p>	3.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Aquatic Ecosystem - Erosion and Sedimentation	01-Mar-13	Expressed concern that the Parish Report did not study far enough. He said the peak of water fluctuation occurs 3, 5, 10+ km downstream and study only goes 1.3 km downstream. Quite simply, the scope of the erosion study does not align with the suspected zone of influence. Further, he said some of the statements in the report are based on assumptions, and it is his conclusion that under LRIA there is no legal right to flood or erode within CR.	ACTION: Tim/ Kris/Rich to consolidate their comments and provide to Xeneca for discussion with Parrish in order to address issues raised regarding potential Chute and Third Fall erosion and downstream effects the in CR.	11.4.1.1
Design - Transmission Line	01-Mar-13	MNR needs to know what power line corridors will look like with exact dimensions and if they will they be associated with roads, water crossings, culverts, bridging, etc. – for the purposes of permitting. With respect to the power line crossing Groundhog R. and park land Xeneca was referred to Parks Ontario staff for more detailed information on permitting requirements.	Using MNR and SFL data, LiDar and other available resources KBM is undertaking a habitat value assessment which will be followed by an in-field assessment of any identified values. ACTION: Xeneca to follow up with MNR to advise them of scoping of work for power line corridor assessment to ensure it is consistent with their requirements. ACTION: Xeneca to contact MTO re: right of way in proximity to the crossing at the Groundhog River Park buffer area ACTION: Contact Parks Ontario for input on what is required to attain permit for power line transecting park land.	Appendix C
Aquatic Ecosystem - Fish Habitat	01-Mar-13	Acknowledged the Shawmere River appears to be outside Xeneca's proposed upstream zone of influence on the Ivanhoe River based upon modeling information presented by Xeneca. For discussion purposes, the UZOI limit will be at the fast water feature immediately downstream from the Shawmere confluence.	Between the Chute and Third Fall, brook trout were incidentally found, but it is not known where they are coming from because it is unknown if the main river stem provides suitable habitat. It is likely that there is suitable habitat in tributaries and the trout are moving from tributaries into the Ivanhoe.	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Fish Habitat	01-Mar-13	Noted that because of the biology of brook trout, we do not have sufficient information to determine mainstem usage or not.	Brook trout have been caught in the mainstem of the Ivanhoe River downstream of Third Falls. It is unclear whether they use the mainstem for spawning as it is difficult to conduct brook trout spawning surveys on the mainstem. Spawning surveys would require divers to observe redds or spawning activity as the river is too deep to perform visual surveys from a boat or the shore. Brook trout may be utilizing habitats in the mainstem for foraging, refuge or overwintering. Brook trout spawning surveys were completed in the tributaries to the Ivanhoe River in the Third Falls headpond. No brook trout or spawning activity was observed in any of the tributaries during spawning surveys. The majority of the available habitat within the ZOI was determined to be not suitable for brook trout spawning and redd construction.	9.4.1, 11.4.1 and 12.4.1

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Aquatic Ecosystem - Fish Habitat	01-Mar-13	The meeting heard there is need to assess inundation areas within these tributaries to identify any suitable brook trout habitat that may be affected. Was concerned that, if more of water is in the tributaries, it may affect the ability to sustain brook trout. Also expressed strong concern that the proposed inundation extends far beyond the area studied (by circa 20x). This presents a large data gap that cannot be filled by a desktop study.	<p>Studies of the affected tributaries have occurred but refined mapping work revealed some upper limits of inundation went further than first thought. There are two primary questions to be resolved; why are trout in the main river stem and what changes will the projects create in tributaries i.e. thermal, spawning areas, etc. It was noted that Xeneca has already committed to operational constraints during fall brook trout spawning.</p> <p>Originally Xeneca proposed a monitoring plan prior to construction to look at spawning and it is expected monitoring will continue after construction. Mapping will be provided to MNR to help identify areas that are impacted – it is anticipated that field validation studies will identify those impacted areas prior to construction.</p>	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Fish Habitat	01-Mar-13	It must also be determined what is required for EA, recommended that Xeneca continue discussions with MOE.	The Waterpower Class EA guidance documentation provides information on the scope of impact assessment. This guidance was followed closely in the Final ER.	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Fish Habitat	01-Mar-13	<p>Studies that help identify what will happen to adult brook trout in spring are not likely required since no significant changes will occur during seasonal high water periods.</p> <p>Summer low flow issue may be a potential change from cold water habitat to cool or warm water habitat.</p> <p>Fall spawning impacts are also of concern as there could be effect on the reds.</p> <p>Winter concern lies around water level changes that affect reds.</p>	<p>Pointed out that, even with operation of Third Fall GS, the head pond and water levels in the tributaries will remain fairly steady.</p> <p>If there is some alteration of habitat, it may raise the issue of habitat compensation.</p>	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Fish Habitat	01-Mar-13	It would appear there is not enough information on tributary effect for an EA and that mitigation efforts and pre- and post-construction monitoring may be required. If negative effects are found to be occurring, compensation will have to occur. Recommend Xeneca engage DFO in these discussions.	Groundwater discharge in tributaries and predicted temperature impacts were analyzed. The memos have been included in Annex III of the final ER.	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Erosion and Sedimentation	08-Mar-13	The executive summary states that Xeneca did an extensive amount of work for an initial EA and that “further review by the agencies indicated that fluvial geomorphic studies should be included in the assessment.” To be clear, MNR staff have raised concerns about erosion on the Ivanhoe River system from the inception of waterpower project planning on the Ivanhoe River. Our concerns were raised initially in the Site Information Packages and in every key meeting since that time. This was also addressed in our comment submission on the EA for the Chute project.	It is noted. We are aware of the concerns and sensitivity of the sediment supply and transport in this area and feel the fluvial geomorphological report represents a good step in addressing these issues.	11.4.1.1

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Schedule	08-Mar-13	This document is still in draft. When is a final expected? Will the final draft be included as an appendix to the Environmental Report?	Upon review of these comments and discussion regarding the analyses, the report would be revised and finalized.	6
Aquatic Ecosystem - Surface Water Levels, Flows and Movement	08-Mar-13	Section 2.2 Proposed Conditions: "The daily variable flow downstream of Third Falls can result in downstream level fluctuations of 0.14m to .31m." This provides no context and is of little relevance as a result. It would be informative to have a discussion on WHERE these fluctuations are expected to occur, as opposed to simply stating that they will occur somewhere downstream. This has implications for the scope of work and ultimately the usefulness of the study.	Noted. This will be clarified in the revised report.	11.4.1, 12.4.1 plus 9.2, 11.2 and 12.2
General Comments	08-Mar-13	In section 2.5.1 there is reference to the "Blanche River" (and again later in the document). Why is this river being discussed in this report? Is this a cut and paste error from previous work by Parish? If so, the document should be carefully reviewed for similar cut and paste errors.	Noted. The revised report will address any reference to the Blanche River site.	n/a
General Comments	08-Mar-13	There are incorrect references to tables and figures all throughout this document. It makes it very difficult to read and cross reference data tables/figures with the text.	Noted. The revised report will improve the table and figure references.	n/a
Class EA - Zone of Influence (ZOI)	08-Mar-13	Section 4 - Field Assessment states that PGL evaluated the river from 2km upstream of the proposed Chute site to 1.8km downstream. And, from 2.6km upstream of the proposed 3rd Falls site to 1.3km downstream. Yet, we have been told that the Chute headpond will inundate new area 6.5km upstream, and previous reports from CPL that looked at level fluctuations downstream of Third Falls showed significant fluctuations at 3, 5, 10+ km downstream based on peaking operations. It seems clear that the scope of work for the Geomorphic Assessment does not coincide with the approximate zone of influence for the project. In the headpond area for the Chute there will be extensive clearing of trees in the area to be flooded. There is no discussion about the new inundation area (above the current river channel) and how erosion processes may affect existing upland forest soil structure. More concerning is that Xeneca's consultants (CPL – October, 2012)) have demonstrated that peaking operations can significantly change water levels on a daily basis several km downstream of Third Falls – well beyond the limited "reach" that was examined in this study. Potential for bank erosion, for example, is likely to be greatest where the daily level fluctuations are highest. This is likely to occur well downstream of where this study terminated, so it is concerning that these areas have been omitted from the scope of the report.	The focus and approach of the geomorphic work will be elaborated upon in the revised report and have better description on the field assessment with respect to the zone of influence and potential sensitivities of the river.	3.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Study Area	08-Mar-13	Because the geomorphic study area is much narrower than the project's zone of influence, it is not possible for MNR to 1) understand the existing conditions throughout the river in areas that will be impacted by peaking operations (sediment regime, etc); 2) determine how peaking may effect existing erosion processes or change existing sediment regime conditions within the river channel; and 3) understand proper locations for ongoing monitoring post-development.	Agreed. Please see the above response.	Appendix O
Class EA - Baseline Survey	08-Mar-13	Section 4.4 - Sediment Characteristics: This section explains that detailed geomorphological data collection (cross sections) was undertaken in IC6 and ITF2/6. Why were detailed cross sections only done in those "reaches"? What methodology was used to determine where detailed transects should be located? Does Xeneca/Parish feel that these limited cross sections accurately represent the sediment characteristics in approx. 70km of river or more (headpond of chute to confluence of Groundhog+)?	It is impossible to assess the entire 70km site. A scoped approach was followed to provide an initial screening of channel processes and river dynamics.	9
Class EA - Existing Conditions	08-Mar-13	Section 5 - Analysis: This section states that the primary goal (of the study) is to provide an idea of how channel form and function operate under existing conditions and how they may change once the dams are operational. It then says that the "existing conditions have largely been documented." Can form and function of the river (within the ZOI area) be understood from only looking at a few kilometres of river and only a few detailed cross sections? Without that understanding, how can MNR possibly understand how natural river morphology may change post-development?	The desktop work, in combinations with the field assessment provide a better understanding of river conditions and likely effects and implications of the proposed dam sites.	9
Class EA - Impact Assessment	08-Mar-13	Section 5 - Analysis: This section states that the channel is "fairly active during peak flows, and an increase in the number of days over the threshold (critical flow velocities), along with a change in sediment supply, may lead to a channel widening and degradation. However, if the channel consists of a thin veneer of alluvial material, and is actually defined by bed-rock, then the channel will be much more resistant." A few questions/comments: 1) how many times per day throughout the year will flows be over the critical threshold due to peaking operations compared to natural conditions (please assess for each operating scenario)?; 2) How will the downstream sediment supply change due to head pond storage and various peaking operations? 3) There appears to be a high degree of uncertainty regarding potential channel widening and degradation, based on questions regarding depth of bedrock below the channel substrate. MNR cannot comment on potential impacts if the potential impacts are not known or if there is too much uncertainty. Xeneca will need to address this information gap in order to understand the potential for increased erosion in the Ivanhoe River basin due to the proposed peaking operation at the Chute and Third Falls. If this info gap cannot be addressed, project evaluation and mitigation will be assessed accordingly (MNR invoke precautionary principle and assume significant negative impacts to the river's natural sediment regime).	The revised report will provide a more thorough discussion on the possible impacts of the dam sites on river processes.	n/a

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Aquatic Ecosystem - Erosion and Sedimentation	08-Mar-13	Section 5.4 - Bank Erosion: This section states that a "previous erosion survey was completed along the upstream shoreline." We are not sure what this is referring to and would suggest that a reference be included when quoting previous work on the Ivanhoe River. This section also goes on to state that bank conditions were noted for most reaches, and that except for localized issues, most of the banks in the study reach appear to be very stable. What methodology was used to document bank condition? What does "most" mean, exactly?	The work referred to was a previous ORTECH study. This will be further discussed in the revised report.	11.4.1.1
Aquatic Ecosystem - Erosion and Sedimentation	08-Mar-13	Section 5.4 - Bank Erosion: This section states that "continual wetting and drying of the clay banks, as well as an elevated water table upstream of the proposed dams, could break down some of the soil structure, allowing for more bank erosion, and further possible destabilization of slopes." It also goes on to state that the Third Falls study reach exhibits "high erosion potential". Xeneca must be able to show that erosion will not occur beyond existing conditions inside the conservation reserve boundary downstream of Third Falls - even beyond the "study reach" of this report. The 1977 LRIA Technical Guidelines state that a dam shall not cause (periodic) flooding or erosion on land located downstream owned by others on which the applicant does not have the legal right to flood, above that which would occur under existing conditions, as a result of the ...operation of the dam. Any erosion of this nature would constitute a violation of the LRIA. How will Xeneca ensure no erosion (beyond existing conditions) in the conservation reserve as a result of proposed dam operations?	The Third Falls GS has been changed to Run of River operation mode, so there would be no erosion issues caused by the facility operation.	11.4.1.1
Class EA - Baseline Survey	08-Mar-13	The document makes reference to a few locations (~5) that are good candidates for post-development monitoring. Does this report suggest that monitoring only 5 locations will be able to provide enough information to understand the post-development sediment regime changes throughout approx. 70km of river (the preliminary zone of influence as far as we understand it)? Is it possible that effects may occur outside of the scope of the suggested monitoring locations? Does Xeneca have plans to develop a monitoring plan and adaptive management plan? In other words, how does Xeneca plan to monitor erosion impacts throughout the entire zone of influence and how will Xeneca modify operations if significant negative impacts are observed and recorded?	While a monitoring plan was presented, a more thorough discussion on the location and approach will be provided.	9
Class EA - Study Area	08-Mar-13	This report attempted to examine existing conditions in a limited reach of the Ivanhoe River and characterize how those conditions may change post-development. Was any attempt made to look at adjoining tributaries? The "high erosion potential" mapping included with the report shows some tributaries that have banks with high erosion potential. Beyond 200m or so, the tributaries are not included in the mapping, but there may be additional erosion potential some distance "up" the tributaries due to frequent watering and de-watering from peaking flows. This may also be true for tributaries downstream that fall outside the scope of this study.	Agreed. There may be some effects on the tributaries, but the overall implication to the river is felt to be low. Where we feel there may be some site specific effects of the tributaries, they will be noted in the revised report.	Appendix O
Aquatic Ecosystem - Erosion and Sedimentation	08-Mar-13	The approach used to study the erosion and sediment transport potential of the Ivanhoe River sites is using a "Rapid Geomorphic Assessment" method. Given the investment in this project and the permanent changes in flows and levels that will occur on the Ivanhoe River, it seems that a more full geomorphic assessment is warranted. The reference for the RGA is Ontario Ministry of the Environment (2003), which is a Stormwater Management Planning and Design manual. How relevant is stormwater design which is likely a small to medium size urban project to a dam and G.S. construction on a medium to large river?	The rapid assessment referred to is a suitable synoptic level survey assessment for indicators of overall channel stability. The method used has been revised for use in non urban rivers.	11.4.1.1

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Aquatic Ecosystem - Erosion and Sedimentation	08-Mar-13	On page iii, last paragraph, the report states "However, at the Third Falls site, the high steep bluffs downstream of the proposed facility have a relatively high potential for erosion, especially associated with hillslope processes." I have worked at the Third Falls site and number of times and I am not aware of any high steep bluffs downstream of the potential dam site. Perhaps I am thinking literally of steep vertical bluffs.	Noted. The revised report will provide more clarity on the slopes and bank heights in this area.	11.4.1.1
Aquatic Ecosystem - Surface Water Levels, Flows and Movement	08-Mar-13	On page iv, last paragraph, the report states that "The proposed flow fluctuations should have only minor impacts on the channel immediately downstream of the dams." This is very important to be as precise as possible as below the Third Falls site is a Conservation Reserve.	Noted.	11.4.1, 12.4.1 plus 9.2, 11.2 and 12.2
Aquatic Ecosystem - Surface Water Levels, Flows and Movement	08-Mar-13	In Section 2.2 Proposed Conditions, in paragraph 2, the report states "The average of the daily flow will be such that the total volume of water passed each day will equal the natural run-of-river flow." Average daily flow is not appropriate for regulated rivers; discharges must be discussed and analysed on at least an hourly basis.	Agreed. We will refer to hydraulic data from Xeneca and their hydraulic consultant.	11.4.1, 12.4.1 plus 9.2, 11.2 and 12.2
Class EA - Existing Conditions	08-Mar-13	In Section 2.3 Water Resources, where does the data come from for the monthly flow and flood flow and low flow information for both The Chutes and Third Falls sites? I assume the data comes from Water Survey of Canada gauge 04LC003 (Ivanhoe River at Foleyet) prorated for The Chutes and Third Falls sites. Does the "Extreme Low Flows" information show 7Q10 or 7Q20 values?	Hydrological analysis of The Chute and Third Falls project is based historical flow data at Water Survey of Canada station 04LC003 (Ivanhoe River at Foleyet) from 1971 to 1994. Please refer project hydrological report of the project included in Annex ?? of the ER. 7Q10 and 7Q20 can be found on the hydrology report, which are 2.14 (m3/s) and 1.56 (m3/s) respectively for the Chute project.	9
General Comments	08-Mar-13	In Section 2.5.3, the report states the "... models cover the river from approximately 2.5km downstream of the proposed Third Falls dam site to approximately 28km upstream – a total of 76km". This would be a distance of 30.5km. I think the report omitted that the models cover the distance between The Chutes and Third Falls, which is a distance of nearly 40km.	Agreed.	n/a

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Theme	Date	Comment	Response	Section
General Comments	08-Mar-13	In Section 4.2 Reach Characteristics, it would be best to refer to west side or east side of the channel, rather than right or left side.	Agreed. The revised report will clarify the orientation. The term right or left in when facing downstream.	n/a
General Comments	08-Mar-13	Based on my time in the field at both proposed sites, I agree with the "In Regime" conditions of the river reaches detailed in Tables 4.2 and 4.3.	Noted.	n/a
General - Information Request	08-Mar-13	Section 4.3 Detailed Cross Sections, it would be helpful to see some (or all) of these cross-sections along with the information presented in the tables.	The revised report will include the actual cross-sections in an appendix.	n/a
Natural Environment - Soils and Sediment	08-Mar-13	The general sediment distribution information for The Chutes and Third Falls is not very helpful, as the sites "primarily consists of sands and cobbles / boulders and bedrock". The individual cross-sectional sediment distributions provide the most useful information.	Noted. The descriptions were from the broader reach observations.	9.1.4, 11.1.4 and 12.1.4
Natural Environment - Soils and Sediment	08-Mar-13	My experience with the Ivanhoe River suggests that suspended sediment is not a major concern; during the 2012 peak flow (March 26th, 2012 with a measured discharge of 178.9 m ³ s ⁻¹) very little suspended sediment was noticed in the flow. However very little information is presented regarding suspended sediment and it is all inferred from general sources. Is there a concern with headpond infilling of suspended sediment? Earlier on in the report this seems to be a concern, but in Section 4.4.2 this is not really addressed.	Agreed. The actual TSS seems to be low, but is likely episodic with higher flow events. That said, the majority of sediment movement is bed load. However, the anticipated volumes of sediment transport are low and not expected to have a low-term management issue on the headponds.	9.1.4, 11.1.4 and 12.1.4

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Theme	Date	Comment	Response	Section
Class EA - Baseline Survey	08-Mar-13	In Section 4.5 Flow Measurements, the report states that "velocity readings were acquired across the channel using a Marsh-McBirney FlowMate velocity meter." Was this done using a boat? I don't think the channel is wadeable at the discharges described in the 2nd paragraph. Where is XS1? Both Figures 4.8 and 4.12 use "XX" for the transects.	Yes, the flow velocity reading were acquired across the channel using a boat. Both XS and XX labelings have been used in the report. XX indicates the cross section provided by Xeneca to Parish Geomorphics which are also used in the HEC RAS modelling and XS indicates cross section acquired by Parish Geomorphics during the field visit.	9
General Comments	08-Mar-13	In Section 5.1 & 5.2 there are many unknowns, as stated, with the entrainment thresholds.	Noted.	n/a
Natural Environment - Soils and Sediment	08-Mar-13	What is the value of some of these results? When I read statements in Sections 5.2 & 5.3 like "it is unclear whether sediment can be entrained", "the reported numbers should be treated cautiously", and "the data do not necessarily represent reality" I don't have much confidence in any conclusions based on the analysis and results in these sections.	The use of the SIAM approach is more of a relative indicator. We are aware of the limitations as the inputs can be variable. That said, given anticipated sediment supply and hydraulics, they can serve as a high-level screening approach to identify potential issues of erosion and deposition.	9.1.4, 11.1.4 and 12.1.4
Aquatic Ecosystem - Erosion and Sedimentation	08-Mar-13	The bank erosion section is very general, but I agree that there does not seem to be a big erosion potential in the vicinity of the two proposed sites, again based from my field site experience. Figures 5.5 & 5.6 display the erosion potential, but would the banks adjacent to the river not have the greatest erosion potential (Figure 5.5)?	Agreed.	11.4.1.1

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Project Change	18-Mar-13	Considering the proposed operational changes (modified peaking to RoR at 3rd Falls), I am wondering how this affects the project planning process from here forward. The proposed changes have implications for baseline study requirements (ZOI), scope of impact analysis, monitoring, etc. Also, I am not sure if all of the action items from our March 1st meeting are still relevant.	<p>When the Third Falls project is changed from modified run-of-river to run-of-river project, the zone of influence of the project reduced, specifically DZOI of the third falls. The baseline study requirement reduces as the downstream zone of influence of the project reduces from kilometers to a few meters.</p> <p>The updated project description for the both projects in the ER was provided to the agencies prior to issuing the draft ER.</p> <p>A public information centre (PIC) was also held in Chapleau, Ontario on October 16, 2013 with the revised run-of-river operation of Third Falls project.</p> <p>Hydraulic modeling reports (HEC RAS steady and unsteady) and operation plan included in Annex I of the ER describe the combined hydraulic effects of the project within ZOI of both projects.</p> <p>All the information requested in this comments has been shared with MNR and other agencies since this comment was provided to Xeneca on March 18, 2013.</p>	6.3
Design - Project Description	18-Mar-13	For east of communication and help us understand where we are at (from EA standpoint), I would recommend the following: -revise the project description(s) for the Chute/Third Falls proposed development - and distribute to use for review and comment.	see above	4, 5 and 6
Design - Operation Plan	18-Mar-13	To facilitate discussion with MNR regarding potential impacts/mitigation, develop a combined preliminary dam operating plan (for both sites together).. Showing the hourly flow regime at each site and protected level fluctuations upstream and downstream, as well as ramping rates, duration of high and low flows, frequency of ramping, etc. A comprehensive description on how these facilities will be hydraulically integrated and managed is warranted.	see above	4, 5 and 6 plus Appendix D
General - Information Request	18-Mar-13	If required, re-issue inundation mapping/shapefiles - based on your best available information (citing all information gaps or uncertainties).	see above	n/a
Class EA - Zone of Influence (ZOI)	18-Mar-13	Clearly describe your "new" proposed Zone of Influence based on your recent technical discussions with Regional MNR/MOE staff and are also based on your new proposed operations. This will allow us to build consensus with all relevant agencies.	see above	3.4
Class EA - Environmental Effects	18-Mar-13	Provide us all relevant environmental effects reports and outline your assessment on whether the existing reports are complete or if any new information or re-evaluation is required based on the proposed operational changes at Third Falls.	see above	Potential Effects Matrix, Table 12
General Comments	18-Mar-13	Once the relevant environmental effect reports have been done, I suggest that another meeting is in order. The purpose of the meeting would be to go over new information, discuss any major outstanding information gaps, and then develop consensus on how these gaps may be addressed (pre vs. post development). It would also be extremely helpful to see a project management-type spreadsheet that shows the successive stages of project planning and implementation and where the key milestones are, particularly as they pertain to MNR's role.	see above	n/a

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Theme	Date	Comment	Response	Section
General Comments	18-Mar-13	The following suggestions may help all agencies: 1) understand the project changes; 2) understand which reports/information are still relevant based on those changes; and 3) understand if there are major items that need to be addressed before considering the release of a draft Environmental Report. If Xeneca has other plans on how they wish to proceed, please disregard the above suggestions.	see above	n/a
Design - Operation Plan	06-May-13	MNR is concerned that there is inadequate information with respect to how Xeneca intends to "re-naturalize river flows below Third Falls". The document proposes to provide flows below Third Falls that would essentially mimic incoming flows to the proposed Chutes site, given that there would be a time lag and potential increase in discharges (as drainage area increases downstream from The Chutes to Third Falls). What would be required is a transducer placed approximately 7-8 kilometres above The Chutes (and above the anticipated 6.4 km headpond – above the project Zone of Influence), and another transducer location just below Third Falls. Both transducers would need to have real-time up-to-the-minute remote access. The information transmitted from the Chutes transducer should be used to inform the flows required to be released from Third Falls in order to re-naturalize flows at the conservation reserve boundary (e.g. use of a rating curve). Currently transducers installed by the Ministry of Natural Resources below The Chutes and Third Falls (in 2010) certainly show very similar flow levels and flow level changes over the past few years.	A section has been added to the Proposed Operating Plan "7.3 Re-naturalization of Flows Downstream of Third Falls" which provides additional details on a proposed method of accomplishing this goal.	4, 5 and 6 plus Appendix D
Design - Operation Plan	06-May-13	The report refers to a Run-of-River (ROR) operation at Third Falls. How does a Run-of-River operation re-naturalize flows? In Section 2. (Modes of Operation) the report discusses how "Third Falls, would re-naturalize river flows by storing and releasing water ...", which is different than a run-of-river operation. To achieve re-naturalization of flows the Third Falls site would most likely have to be operated partially run-of-river and perhaps partially modified run-of-river to achieve a replication of natural flows downstream at the Conservation Reserve boundary.	See response to above. In addition, Xeneca commits to have a monitoring station above the headpond of The Chute and at Third Falls to verify that the flow has been re-naturalized.	4, 5 and 6 plus Appendix D
Design - Operation Plan	06-May-13	The 36 graphs provided in Appendix 1 are helpful, however they show very generalized expected conditions at Third Falls. These graphs have lost all the regulated signature and they are all flat-lined for the 24 hour period of record. For much of the 365 days of any given year, natural flows typically are rising or falling, sometimes rapidly but often very gradually. Consider January and February of 2012: Flows at the Ivanhoe River in Foleyet (04LC003) decreased from 9.4 m ³ s ⁻¹ to 6.3 m ³ s ⁻¹ non-linearly, with a negative exponential decay type function. Taking into account the difference in drainage basin areas, flows released from Third Falls would have to decline from about 18.5 m ³ s ⁻¹ to 12.4 m ³ s ⁻¹ to re-naturalize the river discharge. Would this necessarily mean a run-of-river operation at Third Falls? This is unknown and not discussed in any detail in this report.	The MNR's discussion is based upon looking at river flows on an instantaneous or real time basis. The charts provided in Appendix 1 represent steady-state conditions at various typical inflow conditions (Q60, Q80, Daily Monthly Average). For this reason the flows downstream of Third Falls represent constant flows, reflecting the constant inflow rate shown in the charts representing inflow at the Chute. In practice, river flows will represent unsteady state conditions, associated with hydrological events. The additional discussion provided in the Proposed Operating Plan in Section 7.3 will be used to determine unsteady state flows and the associated operational adjustments required. The actual flow released at Third Falls, at any instance in time, will be the flow that would have occurred under existing conditions.	4, 5 and 6 plus Appendix D

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Operation Plan	06-May-13	How does Xeneca plan to ensure that the flow re-naturalization at Third Falls will work as proposed? How will Xeneca undertake effectiveness/compliance monitoring to demonstrate that the flow re-naturalization objective has been achieved? How will operations be tailored or adjusted if flow re-naturalization objectives are not achieved? MNR believes that flows could be re-naturalized at Third Falls but it would take some complex modelling that would have to take into account i) natural flows into The Chutes headpond, ii) regulated flows released by The Chutes, iii) Third Falls headpond / reservoir travel time, and iv) tributary inputs and drainage basin differences, among potential other factors. Further detailed discussion with MNR (and possibly other agencies) is required on this subject.	See response to above.	4, 5 and 6 plus Appendix D
Design - Operation Plan	06-May-13	In Section 2, the report describes how the Chute would operate in ROR mode when flows are higher than QTmax. All flows other than those being run through the turbine would be passed over the spillway. How will flows be released over the spillway? If an adjustable weir is being proposed, MNR requests details on the technology being proposed, performance history (successes/ failures), and it's efficacy in sub-zero conditions.	Our consultant, ORTECH, has prepared a separate memo to outline the flow splitting between the powerhouse and the spillway. We have received separate comments on that memo and are providing separate responses. As clarification, the current conceptual design at The Chute calls for a fixed crest spillway. Any flow in excess of the powerhouse capacity (QTmax) will go over the spillway regardless if fixed or adjustable. If it were to become apparent that safe flood control can only be achieved with an adjustable weir, then the design would have to be updated as part of the Plans & Spec process of the Lakes and Rivers Improvement Act (i.e. after the EA). The permitting phase of this project will include details on the technology being proposed, performance history (successes/ failures), and it's efficacy in sub-zero conditions. There should no difference in environmental impacts regardless of the weir choice.	4, 5 and 6 plus Appendix D
Design - Operation Plan	06-May-13	In section 2, the report describes how the Chute would operate in ROR mode when flows are Qea or lower. In this case, all flows would be released "downstream". How will flows be released downstream (over the weir, compensation pipe, etc.)? Is there any chance flows may stop during the transition time from operating to non-operating? How does Xeneca ensure an instantaneous transition from releasing flows through the turbine to releasing flows downstream?	A minimum compensatory flow will always be provided through the spillway (QComp) as shown in Table 5 of the Proposed Operating Plan. Given the large and variable ecological flows that were requested by MNR (monthly Q80 for QEA), these flows will require a special gate or valve. Some turbine models have the capability to provide the flow through the turbine, others do not. If the turbine does not have the capability, then a separate gate or valve will be provided. Typically, such a gate is located in the powerhouse. The best location can be worked out with MNR during Plans & Specs process of the Lakes and Rivers Improvement Act after detailed equipment information is available. The detailed engineering design will ensure that flow never stops during the transition.	4, 5 and 6 plus Appendix D
Design - Operation Plan	06-May-13	In section 2, the report describes how the Chute would operate in "modified" ROR mode under low flows, where natural river flows are below QTmin. It goes on to state that in order to protect the environment, the Qea is released through a bypass while the turbine is stopped. Where the bypass is located (spillway or turbine side)? Is the Qea being split between both channels or directed down one particular side?	The primary bypass flow will be through the powerhouse (East Channel around the Island). A compensatory flow occurs at all times through the spillway as shown in Table 5 of the Operating Plan. Where the powerhouse is shut down for extended periods (summer low flows), some of the water can also be directed over the spillway. This occurs after the water levels behind the weir rise to crest the spillway (i.e. when upstream inflows are greater QEA but less than QTmin). Either way, it should be noted that the backwater effect of the downstream project (Third Falls) prevents the channel from dewatering under these conditions.	4, 5 and 6 plus Appendix D

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Operation Plan	06-May-13	Based on the Operating Plan, the intent is to operate the facility at Third Falls such that flows are re-normalized prior to entering the Conservation Reserve. When flows less than minimum turbine capacity (QTmin) must be released, how will these flows be released downstream (bypass pipe, adjustable wier, etc.)?	Flows less than QTmin will flow over the spillway. Third Falls does not have intermittent operation as it operated as a run-of-river facility. Hence the change from operating to not operating will only occur a few times per year, when seasonal flows drop below the minimum turbine capacity. As with The Chute, engineering measures will be used to ensure that the flow downstream does not stop during the transition when the turbine flow stops and the spillway crests. This involves throttling the turbine until the flow is slightly less than the inflow. This causes the spillway to crest and flow before the turbine is turned off. In this manner, the flow never stops.	4, 5 and 6 plus Appendix D
Design - Operation Plan	06-May-13	Section 3.1 discusses shoreline erosion. MNR staff have recently submitted comments to Xeneca on the 'Parish report' that have yet to be jointly discussed. However, the project design has also changed since the report was commissioned and the zone of influence is not as expansive. Many MNR comments on the Parish report may no longer be relevant, however, some still are relevant and MNR still remains concerned about the potential for accelerated erosion in the portion of the river basin that may be affected by peaking operations. A monitoring plan should be developed for "high potential" areas in consultation with district staff (with support from NER hydrology and engineering staff). The monitoring plan should clearly articulate how Xeneca would select monitoring locations within the ZOI, outline the methodology for determining if any observed impacts are related to peaking operations, and explain how Xeneca would modify operations if adverse erosion impacts are documented and attributed to peaking operations. MNR would also like to see a discussion in the monitoring plan with respect to how Xeneca will adjust operations to mitigate any erosion caused by peaking. This discussion should clearly indicate Xeneca's adaptive management approach and outline operational/feasibility constraints. In other words, Xeneca needs to show how much operational flexibility they have if flow regime changes are required to address erosion. MNR has previously heard from Xeneca that these are "very small" projects and we are concerned that project viability issues may severely limit the ability to alter operations once the facility is built. Xeneca should be able to explain in the monitoring plan how erosion caused by peaking could be addressed and/or mitigated if operational changes are not possible for one reason or another.	Xeneca has submitted the Parish report separately and received separate comments. We suggest that these issues are best dealt with through the discussions on the Parish report and the EA report. The Operating Plan is not the vehicle to expand on ecological discussions.	4, 5 and 6 plus Appendix D
Design - Operation Plan	06-May-13	Section 4 speaks to spillway flow allocation objectives. Xeneca has release a separate report for MNR review on this matter and comments will also be returned to Xeneca under separate cover. Please refer to forthcoming comments.	Xeneca concurs that this comment is best dealt with as a response to the comments on the separate report.	4, 5 and 6 plus Appendix D

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Operation Plan	06-May-13	Section 5.4 speaks to ice scour potential and explains that the river bed consists of “hard bedrock that is not sensitive to ice scour”. It also goes on to state that some soft sediments exist at the “higher lying shorelines” and in “deeper sections” and “pools” of the river. MNR has not seen any information to indicate that there is a complete understanding of river geomorphology. What information are these channel characterizations based on? Have these areas been mapped?	The comment on ice scour was intended to refer to ice jam conditions. These occur primarily at localized pinch points in the river. The pinch point locations are also the locations where bedrock conditions dominate. The pinch point conditions were confirmed by the Parish report. Since the Third Falls project will be operated as run-of-river, there are no anticipated ice scour impacts downstream. Since the Third Falls headpond is expected to fluctuate less than 25 cm, there is no risk of ice breakage or shoreline damage in the Third Falls headpond. A limited risk of ice damage along the headpond shoreline of The Chute does exist, but this headpond is relatively small (in terms of increased inundation and total surface area). Water levels will fluctuate by 1 meter during operation which could cause localized effects. Monitoring has been proposed in the Parish report. Where effects occur, mitigation can be achieved through operation, either by avoiding daily operation during freeze up or limiting the operating range after freeze up.	4, 5 and 6 plus Appendix D
Design - Operation Plan	06-May-13	Section 5.4 also goes on to discuss a monitoring plan as a mitigation strategy to address uncertainty regarding ice scour. Point #5 on pg. 15 states, “Based on the results of the assessment, the operating plan will be adjusted to mitigate where a significant adverse effect is determined to occur as a result of modified operation.” 1. Who determines what is “significant”? 2. Who determines whether erosion has occurred “as a result of modified peaking” and not natural causes? 3. MNR would also like to see a discussion in the monitoring plan with respect to how Xeneca will adjust operations to mitigate any erosion caused by peaking. This discussion should clearly indicate Xeneca’s adaptive management approach and outline operational/feasibility constraints. Xeneca needs to show how much operational flexibility they have if flow regime changes are warranted to address erosion. MNR has previously heard from Xeneca that these are “very small” projects and we are concerned that project viability issues may severely limit the ability to alter operations once the facility is built. Xeneca should be able to explain in the monitoring plan how erosion caused by peaking could be addressed and/or mitigated if operational changes are not possible for one reason or another. 4. The erosion monitoring plan should be included for review in the EA (not developed afterward) so MNR can determine if the monitoring plan adequately addresses erosion potential concerns.	The erosion monitoring proposed above (see previous comment) will be carried out by a geomorphologist. Where significant erosion is identified either at the reference sites or by the related shoreline survey, a further analysis will be carried out to better understand the cause. It may not always be possible to determine if an erosion feature is directly related to operation or natural causes; however, the more significant the erosion occurrence is, the more likely it is that the cause can be identified. As noted, the erosion monitoring is proposed in the Parish report. The EA report will also contain a monitoring plan which summarizes all proposed monitoring (i.e. erosion and otherwise). The technical guidance volumes under the Lakes and Rivers Improvement Act provide clear guidelines for erosion assessment study as part of detailed engineering design and Plans & Spec approval. This work is traditionally done as part of post EA permitting. Since there is little indication that this aspect is a significant environmental issue, and constrained to headpond of The Chute, it seems appropriate to deal with it through the established regulatory process.	4, 5 and 6 plus Appendix D

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Operation Plan	06-May-13	<p>Section 5.5 indicates that Xeneca wishes to incorporate the requirements of Water Management Planning (LRIA sec. 23.1) into their EA process. MNR supports this approach. To this end, we offer the following suggestions that should be considered in developing the draft/final Environmental Report:</p> <p>To meet the intent of water management planning through the EA, it is expected that the public and Aboriginal communities will be provided with sufficient opportunity to participate in the planning for the operations of the facility.</p> <p>Fundamental to this consultation opportunity is the provision of an accurate, detailed and complete picture of: The boundary and existing conditions within the anticipated Zone of Influence (ZOI); The degree to which the system is proposed to be altered; Any identified potential effects; Proposed impact management strategies; and Associated post-construction monitoring. Final water management plan objectives should be informed, in part, through agency, public and Aboriginal consultation and the identification of existing uses and values within the anticipated ZOI. It is expected that all public and Aboriginal input will be documented as well as how the input was addressed and incorporated into the final proposed option(s), to support the LRIA decision making process.</p>	<p>It is not clear from the comments if Xeneca has, or has not met MRN's requirements. Xeneca to taken a series of steps to try and align the Water Management Planning (WMP) process with the EA. WMP has been consulted on (notices, PIC poster boards). Meetings have been held with the WMP stakeholder advisory committee (SAC), which includes Aboriginal representation. Meetings have also been held with interested Aboriginal communities on the EA and WMP. A discussion of WMP is given in the Operating Plan and the EA report text. Draft versions of the Operating Plan and the EA have been made available to SAC and aboriginal communities. The ER clearly outlines the ZOI, the degree of alteration, the potential effects, the propose mitigation and proposed monitoring. It would appear that Xeneca has taken all reasonable steps to address the WMP requirements; however, should MNR have additional requirements, Xeneca is prepared to address them separately from the EA. We will await MNR's further direction on this matter outside of the EA process.</p>	4, 5 and 6 plus Appendix D
Design - Operation Plan	06-May-13	<p>MNR supports monitoring for erosion impacts (both shoreline and ice scour). With respect to monitoring intervals specifically, we would request that assessments occur in year 1, 3, and 5, rather than just years 1 and 5.</p>	<p>Xeneca accepts the request.</p>	4, 5 and 6 plus Appendix D
Design - Operation Plan	06-May-13	<p>Section 6 describes the daily fluctuations in flow expected, including a 10+ times increase of day-time flows compared to night-time flows. Can more specifics be brought into this discussion? Can specific flow values in m3 s-1 be provided here?</p>	<p>This reference is outdated and will be changed. Through the consultation process Xeneca has made significant concessions to limit flow variability both in magnitude and frequency. Based upon the charts in Appendix 1 the maximum daily flow variation predicted is 15.3 m3/s (April 15.3 m3/s variability: 39 m3/s max to 23.7 m3/s min) (June 15.1 m3/s variability: 37 m3/s max to 21.9 m3/s min)</p>	4, 5 and 6 plus Appendix D
Design - Operation Plan	06-May-13	<p>In Section 6 (Seasonal Operations) the report needs to explain where the discharge values come from that are graphed in Figure 2a & Figure 2b, Figure 3a & Figure 3b. We expect these values have been prorated from the WSC gauge in Foleyet, or are they from the transducers installed above The Chutes and Third Falls sites?</p>	<p>The discharge values presented in Figures 2a, 2b, 3a and 3b originate from a Hydrological Study conducted by Hatch (November 3, 2009) and updated by Canada Project Limited (March 3, 2011). A Section of the Hatch report is provided below for an understanding of the flow synthesis.</p>	4, 5 and 6 plus Appendix D

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Design - Operation Plan	06-May-13	In section 6, the report states that “turbine flow parameters may change as the project proceeds to detailed engineering design and commercially available equipment options are selected as part of the construction procurement process.” MNR is very concerned about this statement because turbine flow parameters are a key component of the operations plan and they have been the focus of consultations with agencies and the broader public/ Aboriginal communities. If the proposed operating regime changes (including turbine flow parameters) after the EA stage, there may be implications with respect to the Environmental Assessment Act and the Lakes and Rivers Improvement Act. We suggest that Xeneca discuss the intention/ implications of this statement with MNR and OMOE staff before moving forward in the EA process.	A turbine manufacturer / model has not been selected, however the values do represent the “specifications” for procurement of the turbine. Environmental / compensatory flows would remain unchanged regardless of turbine make/model. This is typical practice for equipment selection.	4, 5 and 6 plus Appendix D
Design - Operation Plan	06-May-13	In section 7.2, the scaling on the vertical axis of Figure 5. is difficult to read and make sense of. The graph also shows the “Spawning Period run of river operations”, but is this relevant if Third Falls is to be always operated in a manner that re-naturalizes flows? The title of Fig. 5 is called “Third Falls downstream operating limits”. What limits are being referred to?	The axis could be changed to non-logarithmic (or another logarithmic base number) but with a loss of vertical resolution. A revised and re-named Figure 5 will be provided. It is proposed that Figure 5 will be called “Pre-Project Average Monthly flows at Third Falls” In the next version, the legend will reference monthly Q80 / Q20 values (pre-project) as the typical range of flows expected.	4, 5 and 6 plus Appendix D
Design - Operation Plan	06-May-13	In some sections of the document (Table 2a and Table 7), max turbine capacity is shown as 38cms, whereas other sections of the document (Table 5), max turbine capacity is shown as 25cms. Which one is it?	When intermittent operations occur the maximum turbine output will be restricted to 25 cms to minimize flow variability. When the facility operates continuously (a minimum turbine flow of Qmin) the maximum turbine output will be as the design value of 38 cms. This reference will be added to the Operating Plan. By limiting the operating range of the turbine to 25 cms during intermittent operation, the rate of fluctuation in the headpond levels and the rate of flow variability downstream are reduced. This step provides a degree of impact reduction within the range possible with the available equipment.	4, 5 and 6 plus Appendix D
General Comments	06-May-13	In some sections of the report it is not clear which site is being discussed. For example in Section 4. the “Chute” is not mentioned until the final paragraph. This makes agency review challenging and causes delays.	Will review	n/a

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Operation Plan	06-May-13	There are repeated references to the “modified run-of-river” operation at The Chutes. At the end of Section 2. the report states “It is the limited storage that differentiates modified run-of-river projects from hydroelectric projects that create large storage reservoirs with the ability to store water for weeks or seasons to “peak” when seasonal periods of hot or cold spells raise the need for extra electricity production.” It is interesting that the report relates peaking to limited storage. Peaking refers to the flow discharged by a Generating Station and the manipulation of these discharges over time. Other sites in Northeastern Ontario are known as peaking stations but they regulate flows from Monday to Friday during the same times (generally 11am to 7pm) as indicated in the report. This is regardless of reservoir size.	Ontario has numerous sites with large storage where water can be stored for many weeks. An example is the Frederick House Lake Dam where minimal baseflow is released for weeks at a time. Xeneca has committed to release the total volume of daily inflow each day. This commitment ensures that the required amount of available storage and inundation is minimized. It also ensures that the alteration to retention time and related downstream impacts on temperature and dissolved oxygen are minimized. Xeneca strongly believes that these commitments significantly reduce the environmental footprints of its projects while still providing the socio-economic benefit to Ontario’s electricity grid to provide power when it is needed. In some jurisdictions this type of daily operation, where all the water is released every 24 hours is called “run-of-river” (eg. World Bank definition). Indeed, MNR allows various “run-of-river” sites in Ontario to operate in this manner. To ensure that stakeholders are aware of the proposed daily operation, Xeneca has gone out of its way to clearly explain the proposed daily operation in the Proposed Operating Plan, at meetings and in poster boards to the public. Xeneca refers to this type of operation as “modified run-of-river” as it involves a minimal amount of storage and daily operation, but is consistent with the commitment to release all of the water every day. Xeneca feels that this is distinct and different from altering river flows for weeks at a time.	4, 5 and 6 plus Appendix D
Design - Water Level	06-May-13	Consider that the shorelines above and below a G.S. facility might undergo a wet / dry cycling 5-10 or 10-20 times a year naturally, but with headpond fluctuations some shoreline levels would have to endure this cycling perhaps 200 times per year. Related to this point – in Section 3.2 Aquatic Habitat Upstream, the daily fluctuation “have been chosen to be less than the amount of seasonal and inter-annual fluctuation ...”. Yes, the fluctuation might be less in magnitude but it will likely be much greater in frequency of occurrences. This should be acknowledged in the EA and other related discussions.	Xeneca concurs that the frequency of fluctuation is significantly greater than under natural conditions. This aspect was considered in some detail in the various assessment studies and the EA report. However, it should also be recognized that the 1 meter fluctuation pertains only to the smaller of the two headponds (i.e. The Chute headpond) and that much of the headpond extent and fluctuation will occur within the established channel, thereby greatly reducing the potential for erosional impacts. Given that Xeneca has committed to restrict to release all flows on a daily basis, the headpond fluctuation will also be daily. This operation frequency will minimize the potential for “drying”. Please note that effects assessment is not part of the Operating Plan, but the relevant information is contained in the assessment aspects of the EA report.	Appendix D
Design - Water Flow	06-May-13	It is important to state or know that for 319 days of a typical year The Chutes will be regulating flows 86% of the time (deduced from Table 3).	Table 3 indicates on an annual basis the Chute will operate as ROR, 20% due to high flow and 1% of the time due to low flow. I’m not sure where 86% came from. This value of 86% seems to fit for the Summer / Fall / Winter condition but not spring where ROR will occur 74% of the time. I think Table 3 presents the information properly. The Chute will be regulating the flow 79% of the time.	Appendix D

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Zone of Influence (ZOI)	06-May-13	<p>Xeneca asserts that the downstream ZOI ends “at Third Falls.” Other than that statement, we have not received any material from Xeneca explaining how this determination was made within the context of the definition of ZOI previously discussed with MNR regional staff. Consensus on the project’s ZOI needs to be established with all relevant agencies. To facilitate further discussion, we suggest that Xeneca develop and present clear rationale for your asserted ZOI. We offer the following considerations:</p> <p>General: When making decisions in accordance with its legislation, the MOE and MNR will seek to understand the total anticipated ZOI boundary, the proposed system alterations (effects) within that boundary, and associated impact management strategies. It is also expected that this information be used for Aboriginal and public consultation to support decisions on permits and approvals.</p> <p>Seeking agreement on the total anticipated ZOI with all agencies early in the regulatory process is important to ensure that impacts are evaluated, mitigated and consulted on within an appropriate geographic extent and within a suitable timeframe.</p> <p>The total ZOI is comprised of any area which is subject to potential impacts if the project is developed and implemented as planned.</p> <p>In the aquatic environment, the ZOI is considered to extend to where the alterations in physical, chemical, and biological processes are not considered different from the degree of variability observed under pre-existing conditions. Analysis of key components, including flows and levels, biology (fish, wildlife and their habitats), sediment, temperature and water quality are used to delineate the ZOI.</p> <p>If these pre-project flow allocations are in question, then how do we interpret or what value do we put into any post-project discharges that are proposed in the report? We need to understand the existing conditions in order to understand the degree of proposed changes and potential impacts.</p>	<p>Please note that impact on water quality, temperature and sediment have been addressed separately from the Proposed Operating Plan. Separate reports are contained in the EA for each of these issues. No significant water quality, temperature and sediment impact are expected downstream of Third Falls. Monitoring has been proposed in the ER for all 3 aspects. We believe that the studies and monitoring address the comments made on DZOI, including maintaining ecological integrity in the conservation reserve.</p> <p>Flow pattern changes in the tailrace area can occur. We concur with this comment and point out that the public consultation posters refer to a DZOI of 500 meters. Habitat studies and hydraulic modeling were completed in the tailrace area and beyond (to Groundhog River). As you will recall, the site consist of three falls separated by two pools. The conservation boundary lies between the second and third falls. The powerhouse will be located on the second falls. The tailrace and the spillway will discharge into the natural pool between the second and third falls. Hence the tailrace flow effect is constrained to the pool area and no tailrace flow effect results downstream of the third set of falls (no flow effects past 200 meters downstream). The habitat conditions in the pool were studied. There was relatively little found in the pool as it is isolated by two falls with limited fish passage. We are not aware of any concerns that were identified in regards to the pool between the second and third falls. We trust that this addresses the comments made on tailrace flows.</p>	3.4
Class EA - Zone of Influence (ZOI)	06-May-13	<p>Hydrologic ZOI: If the proposed dam operations are able to effectively “re-naturalize” the flow regime at Third Falls, we concur with the expectation that the downstream ZOI won’t be as extensive as it would have been for a peaking facility.</p> <p>Through technical reviews of various run-of-river projects, MNR hydrologists have noted that hydraulic conditions may still be altered for a short distance downstream of the confluence of the bypass channel. Examples include changes in hydraulic patterns (velocity, direction, depth) related to the orientation of the tail race with the existing channel, and a potential lag period as water release transitions from the GS to the spillway.</p> <p>In many rivers there are valued ecosystem components or other features of interest in the area of alteration downstream of the tailrace confluence. MNR will require an assessment of these potential effects, as it relates to our mandate, when making decisions under our legislation.</p> <p>A comprehensive assessment of the project’s ZOI includes analysis of anticipated changes to the river’s hydrologic, temperature, sediment, and water quality regimes. If these extend beyond the hydrologic ZOI then the total anticipated ZOI boundary should be extended accordingly. As the project is further defined and new information about existing conditions is acquired, the extent of the anticipated ZOI may need to be revisited.</p>	Refer to the above	3.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Water Flow	14-May-13	<p>OMNR is concerned with the assessment of river flow that is divided by the island at the Chute under natural conditions. The table and graph below display the relationship between the west and east channel modelled flows around the island at the Chute for 26 different total flows, ranging from 11 m³ s⁻¹ to 141 m³ s⁻¹. This data was found in Tables 1. & 2. in the report. The table and graph below clearly show that there is a linear relationship between the flows allocated on either side of the island, essentially such that: Q_{east side} = 0.5 (Q_{west side})</p> <p>This 2:1 ratio of flows around the island, which holds for all total discharges presented does not seem reasonable. These results would be based on the number and accuracy of the cross-channel transects that were surveyed upstream, downstream and through the Chutes section, but a map of these cross-sections was not included in this report. Is some of this bathymetry information assumed? What is the spacing of the cross-sections?</p> <p>Based on field observations of many visits to the Chutes, OMNR staff expect that the majority of flow would be on the west side of the island, and potentially less and less flow would proportionally occur in the east side as total discharge increases. Just upstream of the east side of the island is a large channel obstruction that is vegetated and made up of bedrock and very large angular boulder material. One can see that at very high flows this forces total flow into the centre of the Ivanhoe River, however a "back channel" forms and some flow goes into the east channel side right along the east bank. A more detailed channel morphology model (surveyed using a RTK unit, for example) should be used to provide the information needed to more accurately model flow allocation around the Chute island.</p> <p>Another option would be to actually measure flows on the west side and east side of the island at The Chutes using an acoustic Doppler unit (RiverKAT), for example. This would be a direct measurement of discharges, that could occur at a variety of flow discharges and with enough measurements the allocation proportions would be determined for certain, and flow modelling would not be necessary.</p> <p>If these pre-project flow allocations are in question, then how do we interpret or what value do we put into any post-project discharges that are proposed in the report? We need to understand the existing conditions in order to understand the degree of proposed changes and potential impacts.</p>	<p>Actual flow distribution on the two channels has been measured in the field and compared with the modeling results. Field measured flow is very consistent with the modeling results. Please refer the flow splitting memo prepared by Ortech (Annex I).</p> <p>These reports and information have been shared with the agencies and discussed before the release of the final ER.</p>	Appendix D
Aquatic Ecosystem - Fish Habitat	14-May-13	<p>Based on the scenarios presented in the flow partitioning document, the western channel will be allocated both more and less water in the same season than under assumed natural conditions. Natural conditions as presented in the report are questionable, however, once they are refined (as per above comments), Xeneca should undertake an assessment of how the proposed flow regime would impact habitat functionality in this channel. There are numerous Habitat Suitability Index (HSIs) models to assist with this task.</p> <p>Based on the assumed flow apportionment values presented in this report, the eastern channel will sometimes have slightly less, but mostly more water (the full turbine 38 cms) flowing through it. Natural conditions as presented in the report are questionable, however, once they are refined (as per above comments), Xeneca should undertake an assessment of how the proposed flow regime would impact habitat functionality in this channel. There are numerous Habitat Suitability Index (HSIs) models to assist with this task.</p>	Flow splitting report has been updated which has been used by the biologist to assess the impact on habitat functionality.	9.4.1, 11.4.1 and 12.4.1

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Theme	Date	Comment	Response	Section
Aquatic Ecosystem - Fish Habitat	14-May-13	Because this fast water feature is highly suspected to be a primary spawning location in a vast stretch of river (downstream), OMNR would prefer to see post-development flows in both channels mimic pre-development flows (natural flow apportionment) during the walleye spawning period. Perhaps there is an engineering solution such that the powerhouse channel (east channel) can be fitted with an additional release valve/pipe to allocate more flow in addition to what is being put through the powerhouse during the spawn period.	Flow splitting report addresses this issue. During walleye spawning period, normally turbine will run at maximum turbine flow capacity which is 38 (m3/s). Hydraulic analysis shows this flow is more than sufficient for the walleye spawning hydraulic conditions (i.e. water depth, velocity).	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Fish Habitat	14-May-13	A significant portion of the existing habitat (rapids at the bottom of the Chute) is to be flooded by at least 50 cm of water during the spawn. Can Xeneca demonstrate that existing walleye spawning/rearing habitat functionality will be maintained as a result of this additional inundation?	Xeneca has demonstrated that walleye spawning/rearing habitat will be maintained below The Chute. They have identified that, at the cross sections overlapping with known walleye spawning habitat, the velocities remain within the range for walleye spawning. The area below The Chute is also the proposed location for habitat offsetting measures. More detail on the proposed habitat offsetting measures can be found in the Conceptual Fish Habitat Offsetting Plan appended to the ER. Xeneca is continuing to work with agencies to finalize this offsetting plan. The newly constructed habitat, as well as the existing habitats expected to continue functioning, will require extensive monitoring of depths and velocities to ensure they are suitable for walleye spawning. Monitoring of habitat use will also be occurring. More details on proposed monitoring can be found in the Conceptual Fish Habitat Offsetting Plan and the Proposed Monitoring Plan appended to the ER. Xeneca has committed to maintaining these habitats and will ensure adequate depths and velocities are provided.	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Fish Habitat	14-May-13	The suggested minimum 10 cms flow during the spawning period for the west channel appears arbitrary. The report references that this is what would flow down the channel in a q80 situation. Is this the monthly/seasonal/yearly q80 flow? How did Xeneca determine that that this would provide suitable flows such that walleye reproductive success is maintained in that channel?	This issue has been addressed and updated on the flow splitting memo prepared by Ortech (see Annex I)	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Fish Habitat	14-May-13	OMNR staff are concerned about the extremely low bypass flows (west channel) that are proposed around the reproductive period. According to Tables 1 and 2, the facility ramps up from 1 cms to over 50+ cms when the temperature becomes "suitable for spawning and staging" (about 4C) – The wetted width of the channel will be abruptly changing (not discussed) and the functionality of the feature for ecological function is likely to be heavily impaired. The EA should discuss the usability and functionality of the feature under this regime. If Xeneca proposed a minimum 10cms by-pass flow during the spawning period instead of 1 cms, then this concern may be partially alleviated, however, Xeneca should still discuss how this abrupt change in flows will affect the ecological function of the feature.	The Chute facility is proposed to operate as a run-of –river facility during the walleye spawning and rearing period (4 degrees to 12 degrees) (please see Appendix 2 of the Proposed Operating Plan). This means that the facility will be operating at the same rate as the natural flows in the river. What is perceived to be a ramp in flows in the west channel is a result of the facility not being able to pass the entire amount of natural flow coming down the river trough the turbine. The turbine can only process 38cms therefore, when natural flows in the river exceed 43cms (38cms through turbine + 5cms down west channel) the remaining flow must be passed through the west channel. It appears as though velocities at these habitats will still be within the range preferred for walleye spawning, even at flows of up to 112cms in the west channel. It should be noted that the compensatory flow in the west channel during spawning is 5cms not 1cms.	9.4.1, 11.4.1 and 12.4.1

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Theme	Date	Comment	Response	Section
Aquatic Ecosystem - Fish Habitat	14-May-13	OMNR staff are concerned about the low by-pass flows proposed for the west channel (0.5 cms) outside of the spawning period. We agree that habitat functionality in this channel is most critical during the spawning period for walleye, however, the fast water feature in this channel is also critical for other ecological functions (e.g. benthic invertebrate productivity) – which support the overall fishery. Can Xeneca explain how the ‘wetted width’ of the west channel will change from natural conditions if only provided 0.5cms? Has this been modelled or otherwise considered? What is the potential ecological impact? Ideally, OMNR would like to see 100% wetted width maintained in the west channel year round. However, a 50% wetted width is a reasonable minimum target if 100% cannot be achieved due to project feasibility issues.	The flow splitting report prepared by Oretch addresses the issues raised on this comment . Please refer Annex I of the ER.	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Fish Habitat	14-May-13	Xeneca will need to develop a rigorous monitoring plan to ensure that walleye spawning success continues at the Chute location from year to year, post development. The monitoring plan cannot simply be a “we’ll go out and look for spawning walleye” survey, but should be some assessment of overall usage (is the feature functioning like it should?) alongside a mitigation plan if it isn’t. On the other hand, if Xeneca can maintain the natural flow apportionment around the island at the Chute during the spawn period – as discussed above - then intensive walleye spawning monitoring may not be required. If managed for natural flow regime during the reproductive period, OMNR will assume functionality is being maintained.	Walleye spawning assessments (egg mats, visual spotlight, presence/absence surveys) will be completed in all existing and newly constructed walleye spawning habitats. A Fall Walleye Index Netting (FWIN) program has also been proposed as part of the monitoring plan in order to assess the health of the walleye population within the Third Falls headpond. This will assist in determining whether spawning and recruitment are occurring successfully and also whether changes in the benthic invertebrate community are resulting in impacts to walleye health. Water depths and water velocities will be measured when water temperatures are suitable for walleye spawning. If it is found that the fish are not using the compensation habitat, the habitat measurements will be used to verify the predicted conditions from the 2-dimensional model used to design the spawning habitat. The 2-dimensional modeling may then be used to analyze the habitat parameters at a variety of flow conditions. For more details on proposed monitoring please refer to the Conceptual Fish Habitat Offsetting Plan and the Proposed Monitoring Plan appended to the ER.	9.4.1, 11.4.1 and 12.4.1
General Comments	14-May-13	In Figure 2. the graphs are too small, and it is difficult to read the axes and legend properly.	This will be corrected in the Final ER.	n/a
General Comments	14-May-13	The report refers to a Figure 3. which is not included in the report. (the author likely meant to divide up the graphs on page 6 as Figures 2. & 3.)	This will be corrected in the Final ER.	n/a
General Comments	14-May-13	There is no reference list with Assessment of Spillway Flow Allocation at the Chute dated April 1, 2013. , but a handful of referenced reports are in the text.	This will be corrected in the Final ER.	n/a

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Aquatic Ecosystem - Fish Habitat	14-May-13	Xeneca will also need to consult DFO on their approach to maintain fish habitat functionality as well as any associated monitoring/mitigation plans.	Xeneca has consulted with DFO throughout the project planning process. The Conceptual Fish Habitat Offsetting and Monitoring Plan has been discussed with DFO and the report is included in Annex III of the final ER.	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Water Temperature	17-May-13	The main issue that is identified by the report is residence time. Under normal flow conditions, residence time in the head pond ranges from 7 to 17 hours. Once the facility is constructed, this residence time is going to increase by five hours to five days dependant on the inflows. The longer that water sits exposed to solar and environmental radiation (i.e. midsummer heating), the more heat it can absorb and the warmer that it is going to get.	To address the MNR's comments, ORTECH has carried out stream flow temperature modeling. ORTECH modeled for both, The Chute and Third Falls headponds under summer low flow conditions using the Stream Segment Temperature Model (SSTEMP) Version 2.0 by the United States Geological Survey (USGS). Further information about the model and the model limitations are provided in Attachment 1. The results are summarized below. The SSTEMP model was calibrated with available flow, temperature and meteorological data for the time period of July 13 – 15th, 2012. The period represents the highest recorded water temperature during the months of July and August 2012 (July 15, 2012 Maximum Water Temperature at The Chute = 25.1C). The study period reflects the type of conditions noted in the MNR comment. The SSTEMP model assesses impacts on a parcel of water over a 24 hour (daily) basis. For the Chute project, both pre and post project residence times are within 24 hours and are represented by a single model run for each scenario. For Third Falls, both, pre and post project residence times exceed 24 hours. Three model runs (3 days) were used for each model scenario. Predicted residence time under the associated flow conditions are provided in Table 1.	11.2.4 and 12.2.4

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Aquatic Ecosystem - Water Temperature	17-May-13	The concern here lies with the unique thermal structure of the river – it cools as it approaches Third Falls. This may, in part, explain why we have BT in the main stem downstream in the conservation reserve (CR). The report describes a ‘modest temperature’ increase that may occur under drought conditions. We are curious as to what a ‘modest temperature increase’ actually is – are we talking 0.5 C or 5 C?; and what would be the frequency of these “drought” events? This is important for us to understand, particularly considering that flows are generally the lowest when solar heating is the highest (midsummer). This may have implications with respect to maintaining ecological integrity (EI) in the downstream conservation reserve. EI is maintained by the existing thermal conditions of the river. If thermal conditions change considerably, then changes to the ecosystem are highly likely.	<p>It should be noted that the proposed inundation results in both increases and decreases in water temperature. These phenomena results from the larger cooling surface at night and the larger heating surface during the day. Depending on the specific atmospheric conditions, the effect on mean temperatures can either be positive or negative (day or night).</p> <p>For the days modeled, the largest increases in temperature occur at night, with +1.0°C at the Chute and +2.1°C at Third Falls. The largest decreases occur during the day, with -2.2°C at the Chute and -1.3°C at Third Falls. The modeling suggests that there is no significant increase in the daily peak temperatures (i.e. +0.5°C on day 2 in Third Falls). The modeling also suggests that there is no significant effect on daily mean water temperatures (i.e. -0.6°C to +0.2°C). These findings are consistent with the comments in the screening analysis previously provided by ORTECH.</p> <p>It should be noted that the decrease in the mean temperature of -0.60C at The Chute is likely an artifact of the inflow water temperature used to calibrate the pre project scenario (i.e. 25°C). Available temperature data for calibration only exists at the outflow of the headpond and was used for the model calibration. The actual inflow temperature is unknown and probably slightly lower than 25°C, leading to a slightly different mean temperature than was expected.</p> <p>It should also be noted that the prediction of daily maximum and minimum water temperatures is more sensitive to model inputs than the prediction of daily mean temperatures. The results are provided for completeness but should be interpreted with caution. In addition, all modeling results are subject to inherent limitations as discussed in Attachment 1.</p> <p>We trust that this information provides the additional perspective on what was meant by the use of the phrase “modest temperature increase” in the screening analysis. In the case of the model results, this modest increase is 0.5°C for the daily maximum temperature on Day 2 in the Third Falls</p>	11.2.4 and 12.2.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Aquatic Ecosystem - Water Temperature	17-May-13	In the stratification discussion, an average increase of 1.8 m is associated with the Third Falls head pond. Given that the head pond is 40 km in length, this may be misrepresentative of certain reaches. Perhaps it would be more informative to include a short description of those river sections that would become susceptible to stratification (likely in close proximity to the dam site).	<p>For the April 12 Report, a water depth of more than 6 meters was used as the minimum required to result in temperature stratification. This is based on deep lake trout lake observations where reliable temperature profile data has been gathered (eg. McCarthy Lake data, Hutchinson Environmental, September, 2011). Such still deep water bodies exhibit mixing in the top epilimnetic layer ("mixing layer") and stratification in the still hypolimnetic lower layer ("stratified layer"). Mixing in lakes occurs due to waves, wind and currents. Mixing in rivers occurs due to hydraulic flow patterns. As such, mixing in rivers can go deeper than 6 meters if there is active flow, but 6 meters is reasonable screening assumption.</p> <p>The headponds associated with The Chute and Third Falls are long, narrow and relatively shallow. River cross sections 500 m upstream of the dam site are provided in Attachment 2 with proposed water surface elevations and potential stratified layers superimposed. Sections "0" and "-1", located 21 meters and 220 meters from the dam site show a limited volume of water where a stratified water layer could develop. This potential is measured against the location and proximity of the intake, extending approximately 5 m below the water surface and the presence of a "shallow" section "-2" located 370 meters upstream.</p> <p>Section "-3", located 551 meters from the dam site again exhibits a potential for a limited stratified bottom layer. Similar to the above discussion, the potential for a stratified layer to form and the extent of such a layer is limited by "shallow" upstream sections. These upstream sections and the potential for stratification are addressed through an analysis of the HEC-RAS model over the remaining 43 km using the modelled water surface elevation and minimum channel elevation. Between kilometers 1 and 3 the potential stratified layer (depth greater than 6 m) ranges between 3 and 1 m. Upstream river sections between 6 km and 14 km are unlikely to show stratification when headpond drawdown levels are taken into consideration.</p> <p>The remaining river sections are further unlikely to develop stratified water layers outside of small isolated pools which may be present. From a hydraulic flow perspective, the headponds are more similar to a wide and deep river than a lake trout lake. As such, it is likely that these waters are in constant</p>	11.2.4 and 12.2.4

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Aquatic Ecosystem - Water Temperature	17-May-13	The report references an engineering design of the dam and powerhouse wherein different strata of water can be pulled/released when stratification occurs. Given that the depth of water at the Third Falls powerhouse is likely to be over 6 m (typical requisite for stratification), it may be appropriate to implement such a design. Can Xeneca ensure naturalization of temperatures beyond the Third Falls facility using this approach? We have collected data on existing thermal conditions that may assist in developing a model to determine what outflow temperatures should be released based on upstream temperatures. MNR also recommends and supports Xeneca's commitment to on-going thermal monitoring, post development.	<p>The third and final MNR comment relates to the potential for stratified releases from the headpond, and if this were to occur, how it might affect the Ecological Integrity of the Conservation Reserve. Stratified release can occur where a powerhouse intake is located either in the upper part of the dam (in the warm mixing layer) or in the lower part of the dam (in the cold stratified layer) (see literature reference by Rounds, 2010). ORTECH believes the answer to this is twofold:</p> <ul style="list-style-type: none"> • There is convincing evidence that stratification will not occur to any significant extent as described in the above section; and • The conceptual engineering design drawings show that the height of the powerhouse intake occupies much of the 10 meter depth at the dam (i.e. 4 meters for the intake plus 1 meter below the water line). There simply is no opportunity for positioning the intake such that either warm water from the mixed layer or cold water from the stratified layer could be achieved. <p>It is our interpretation that the configuration of the dam and adjacent headpond section at The Chute and at Third Falls are too small to suggest that the release of temperature stratified water resulting in significant downstream impacts could occur. Further to this the volume of water within the deeper section of river within 500 m of the dam site is too small to effectively use this volume as a means to influence downstream temperatures. This conclusion further relies upon the temperature assessment discussion provided above which indicates increased headpond temperatures are not a significant concern. As such we do not see a concern with respect to temperature impacts on the Ecological Integrity of the Conservation Reserve.</p>	11.2.4 and 12.2.4
Class EA - Zone of Influence (ZOI)	06-Jun-13	MNR respects the Zone of Influence (ZOI) definition contained in the OWA Class EA for Waterpower Projects (the Class EA). MNR encourages proponents to discuss with/seek clarification from OWA, if required, on how to apply the definition either generally or within the context of a particular project.	The comment is part of a communication on June 6, 2013 that outlines the updated guidance advice on ZOI. The Final ER contains a special section on ZOI that tries to address all aspects of this comment and the related letter.	3.4
General Comments	06-Jun-13	MNR will continue to work collaboratively with proponents to meet the intent of Section 5.0 of the Class EA to identify opportunities to create a process that facilitates coordination with and integration of other legislative and regulatory requirements. In keeping with a coordinated approach, MNR recommends that all requirements of the LRIA, ESA and PLA be considered prior to and throughout the EA process.	The comment is part of a communication on June 6, 2013 that outlines the updated guidance advice on ZOI. The Final ER contains a special section on ZOI that tries to address all aspects of this comment and the related letter.	n/a

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Zone of Influence (ZOI)	06-Jun-13	<p>MNR recognizes that the Class EA is the primary planning and public engagement framework for waterpower proposals. Consistent with the Class EA, proponents are ultimately responsible for determining the required ecological data collection requirements with consideration being given to advice provided by MNR. It is the proponent's responsibility to determine the potential ZOI (i.e. project scope) under the Class EA.</p> <p>If MNR and a proponent cannot come to a consensus on a final ZOI during the EA process, MNR would expect a proponent to clearly describe in the final Environmental Report (ER) the methodology used to delineate the ZOI boundary and, in situations where the ZOI does not cover the entire extent of hydrologic alteration resulting from the proposed development, rationalize why a stretch of river was not assessed or consulted on and how it came to its determination that the change to the hydrological regime does not cause an impact to any of the features or values of interest within MNR's mandate. Inclusion of this rationale within the ER will help MNR make a determination as to whether or not sufficient information has been collected to allow MNR to make informed permitting decisions.</p>	The ZOI rationale and all such discussions will be incorporated into the Final ER.	3.4
Cultural Heritage Resources	08-Aug-13	<p>As discussed in our recent comment submission on the Draft Env Report for the Ivanhoe River proposed hydroelectric developments (Chute and Third Falls), we have discovered what appears to be Culturally Modified Trees at the Third Falls location during a recent site visit – just below the first set of falls (Belford Township). Attached you will find a map showing the two locations as well as some photos.</p> <p>There appears to be 3 or 4 possible CMT trees at two specific locations that we found. In reference to the attached PDF map, GPS coordinates are as follows: Site #1 (appeared that there were two or three CMTs in this vicinity) E 399933 N 5384129 UTM Zone 17, NAD 83</p> <p>Site #2 (appeared that there were one or two CMTs in this vicinity) E 399945 N 5384219 UTM Zone 17, NAD 83</p> <p>We are not 100% sure that these are CMTs, however, they appear to be based on the marks on the trees. It looks like some type of tool was used to cut the "butt ends" and make small boards along the grain of large cedars. In most cases, the markings were facing away from the river and in locations that would make ice damage scaring an improbable cause. After looking at these trees for some time in the field, we could not contemplate how else these markings would have been made – if not done by humans. We recommend that this info be shared with local FN communities who have an interest in the project, as well as your contacts at MTCS. We will also forward this information directly to MTCS for their follow-up if required.</p> <p>Please advise if you or your consultants need any more information. I am also willing to "guide" folks into the site to these exact locations if needed.</p>	A second specialist in cultural heritage has been sent to the site and the trees were found not to be CMTs. The results are included in the ER Annex V.	9.8, 11.8 and 12.8

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Supporting Facilities	08-Aug-13	It's good to see you're engaging Ontario Parks regarding the transmission line crossing of the Groundhog River Prov Park. Just as a reminder, the approval process is the same for utility lines in Conservation Reserves. However, Chapleau District has management jurisdiction over the Conservation Reserves and all planning and approvals for CR utility lines must be done through the district – not Ont Parks. Nancy is your contact for the Groundhog River Prov Park and I will be the contact for the Conservation Reserves (Vimy, Nova, Northern Claybelt) Trust that clarifies roles/ responsibilities with respect to trans lines and protected areas.	Xeneca has been in contact with MNR district and submitted relevant documents.	4 and 5
Cultural Heritage Resources	09-Aug-13	As per our discussion today, we are only recommending that Xeneca consider using an "independent" archaeologist to assess the new finding at Third Falls. In this way, the archaeologist will be evaluating the site on its merits and will not have any biases or knowledge of the debate that took place regarding the suspected CMT at the Chute. To be honest, it's really only about the optics. I'm confident that the consultant that did the initial Stage 1 and 2 report has sufficient expertise and does excellent work. It is merely a suggestion to use another firm for this work for the sake of objectivity. Ultimately, the approach taken is up to Xeneca in consultation with MTCS.	Just to follow up with our previous discussion, Xeneca through ORTECH has contracted Archaeological Services Inc. (ASI) to follow up with the CMTs in the Third Falls area. We will let you know what our schedule is moving forward. I hope that you can still participate in a field visit when one is scheduled, as that would be a great help.	9.8, 11.8 and 12.8
Design - Fire Fighting	13-Aug-13	Pg. 58. Identifies 10-30m ROW clearing for new roads – 10m is not wide enough to ensure prevention of forest fires and reduce hazard associated with potential fire start/spread. How will the ROW be maintained to reduced fire hazard through project life? Will there be signage for responders along new roads; turnarounds sufficient to get fire engines or trucks into respond?	New road construction will require the clearing of a 25 – 30 m right of way (ROW). Access road details are provided in Annex VI.	14.1.3 and 14.2.3 plus Appendix C
Design - Fire Fighting	13-Aug-13	Pg. 61. 4.2.1 description seems to be indicating land clearing will be done under a forest resource licence, however this is not explicitly stated – this should be clear. Further, text should state that all clearing of timber will be in accordance with the approved Forest Management Plan and Annual Work Schedule. To be clear, from a wildfire prevention perspective: this means that work modifications will be required during the fire season, as per the Modifying Industrial Operations Protocol (http://www.mnr.gov.on.ca/en/Business/AFFM/Publication/MNR_E000014P.html)	Acknowledged. Will be included in permitting phase.	14.1.3 and 14.2.3 plus Appendix C
Design - Fire Fighting	13-Aug-13	Pg. 63. 4.2.4 outlines that a temporary construction camp will house workers during construction. Section should state that an evacuation plan will be developed as a part of a fire prevention and preparedness plan; or that an evacuation plan will consider the potential for evacuations as a result of wildfire in the area.	Fire prevention and preparedness plan will be prepared during permitting.	14.1.3 and 14.2.3 plus Appendix C
Design - Fire Fighting	13-Aug-13	Pg. 155. 7.1.5 talks about burning in accordance with the FFPA. This section does not note requirements for prescribed burn plan application and plan development / approval. This should be acknowledged with the associated timelines (6-9mo before burning) as per the MNR's Prescribed Burn Operations Policy (2008).	Incineration method was removed from the ER.	14.1.3 and 14.2.3 plus Appendix C
Design - Fire Fighting	13-Aug-13	Table 26 Access: gates and fencing is mentioned. There is no discussion about how/if MNR would be able to respond to wildfire by ground should a fire be detected behind the gate or fence; will gate code or key be shared with MNR fire? Will a contact person identified to grant access? Will there be annual meetings to confirm contacts, communications, etc...? Or will access be restricted resulting in reduced fire response times and potentially larger areas burned?	If any gates or fencing is necessary to set up, the key will be provided to MNR fire department for emergency situations. The contact info will be provided as well and updated with any changes.	14.1.3 and 14.2.3 plus Appendix C

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Fire Fighting	13-Aug-13	Views/Aesthetics: talks about minimizing clearing and enhancing buffers – this creates a forest fuel build up that can result in an increased potential for fire start (particularly during construction activities where heavy equipment has the potential to ignite debris on site) or increased potential fire spread. This management strategy should be re-considered. Also of note: vegetation re-establishment around transmission lines starts many fires annually in Ontario. Text describing the continued maintenance and clearing of transmission lines for safety purposes should be mentioned; any text indicating vegetation establishment around transmission lines and other fire ignition sources should be removed.	As mentioned in other sections of this response document, with respect to site access and use, Xeneca has committed to tourism operators and recreational users to: Make road improvements thereby improving access to the site Improve the existing boat launch at The Chute Create a parking/rest area Create a portage route around both The Chute and Third Fall sites Ensure that access to the recreational angling, canoeing and other activities is not fenced off or otherwise lost. Only where public safety is at issue (i.e. high voltage equipment, water intakes, etc.) will fencing or access restricting devices (i.e. safety booms) be put in place.	14.1.3 and 14.2.3 plus Appendix C
Social and Economic - Public Health and Safety	13-Aug-13	Public Health & Safety: this is a good start to have described fire preparedness measures. The section requires more detail – for example, what type of fire training would the staff on site have (SP100, 102?) and what types of equipment would be on site, would this vary from construction to operation (pumps – how many, hose – how much, shovels, back-pack pumps, etc...). There is also no discussion about fire prevention – the other half of a Fire Prevention and Preparedness plan MNR regularly requests from industrial operators working in forested areas. Fire prevention programs, measures and communications should be identified. Regulated fire prevention and work modification requirements as a result of fire danger are required when working under a forest resource licence (http://www.mnr.gov.on.ca/en/Business/AFFM/Publication/MNR_E000014P.html), these practices should be noted in this section as should text outlining if or how these practices will continue throughout the construction phase of these operations, as Figure 2 (pg 4) indicates that fire preparation and construction are scheduled for the 2014 and 2015 fire season.	Details to be determined in Plans and Specs during permitting.	9.7.5, 11.7.5 and 12.7.5
Design - Fire Fighting	13-Aug-13	This section should outline that a Fire Prevention and Preparedness plan will be developed annually through discussion with MNR fire managers. Through this annual planning process key contacts and emergency numbers will be identified, prevention and preparedness plans will be described and include information on how fire danger information will be communicated and used daily.	Details to be determined in Plans and Specs during permitting.	14.1.3 and 14.2.3 plus Appendix C
Design - Fire Fighting	13-Aug-13	Pg. 187. 8.5 discusses accidental fires, one component of working in a fire prone ecosystem. The proponent should be aware and consider potential that high fire hazard may also result in operational restrictions or restricted access to crown land in extreme situations. Suggest re-writing the section to call it “forest fire hazard” and expand the section to discuss fire hazard implications on the project; and the project implications on fire starts/spread	ORTECH to consider this request.	14.1.3 and 14.2.3 plus Appendix C
Design - Fire Fighting	13-Aug-13	Pg. 196. Table 27 – the document has not described and y fire prevention activities during construction or operation of the facility. This table should include potential residual effects associated with forest fires (potential start/spread) as a result of operations. Or, fire prevention efforts should be discussed with the local fire management headquarters, described and documented in this plan with required facility modifications and design considerations.	Details to be determined in Plans and Specs during permitting.	14.1.3 and 14.2.3 plus Appendix C

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
General - Information Request	29-Aug-13	<p>To avoid any potential land-use or tenure issues down the road, I suggest that you send us an ArcMap (GIS) shapefile of the:</p> <ul style="list-style-type: none"> • Transmission line (final proposed routing at this stage) • Inundation Zone • All relevant infrastructure: Dam site, powerhouse, conveyance channel, parking areas, construction camp, laydown areas, batch plant, etc. <p>The shapefile that you send me does not need to show detail (location of buildings, etc). You simply need to provide an outline (GIS polygon shapefile) of the entire project footprint, plus a little buffer to be conservative. For example, include the footprint of all structures, dam, trans line, etc and then add 200m buffer around everything. If you are not sure about exact locations - such as the construction camp - then just include the current proposed location and we can add/delete areas later if things change. I just want to get the main areas taken care of. Once you send me these shapefile(s), we will work with MNDR to have this geography withdrawn.</p>	A while back you requested the GIS shape files for The Chute and Third Falls projects on the Ivanhoe River. The attached file has LTAF and 100-year floodlines for pre- and post-project conditions.	n/a
Stakeholder Consultation	03-Sep-13	MNR updated the effects on lake levels and loss of property value are top concerns for Ivanhoe Lake Cottagers Association (ILCA), which were raised at the meeting between MNR and ILCA on September 1, 2013.	There are no effects on Ivanhoe Lake as a result of the Chute or Third Fall projects as the lake is several kilometers upstream of the Zone of Influence and is separated from the project sites by an MNR control dam	17
Stakeholder Consultation	03-Sep-13	MNR updated the impact on fisheries was one of top concerns for Ivanhoe Lake Cottagers Association (ILCA), which were raised at the meeting between MNR and ILCA on September 1, 2013.	Xeneca has committed to operational constraints that minimize effects during critical life stages such as spawning. Compensation for lost habitat has been committed to as well as robust monitoring programs that will assess the overall health of the fishery and ensure MNR fisheries management objectives are being met.	17
Stakeholder Consultation	03-Sep-13	MNR updated ILCA remained opposed to the project but opposition appeared to be based on principle.	Xeneca has worked with ILCA members and responded to all questions and concerns regarding the project. Xeneca will continue to work with ILCA post EA.	17
Stakeholder Consultation	03-Sep-13	MNR updated that ILCA wanted increased engagement with Xeneca, and it was noted that one ILCA member was concerned about accidents that occurred on the Hydromega projects (failed coffer dam) could be repeated on the Ivanhoe projects, based on the the meeting between MNR and ILCA on September 1, 2013.	Xeneca has ILCA and several of its members on its stakeholder list and continues to send project updates and notices. With respect to concerns of construction accidents, Xeneca will have a construction safety plan in place prior to commencement of construction.	17

Ministry of Natural Resources (MNR)				Report Reference
Theme	Date	Comment	Response	Section
Design - Water Flow	03-Sep-13	expressed some concern over the ramping rates that could see a very significant jump in channel flows during the spring spawning season.	The ramping rate has been elevated to be 60 min from 20 min.	Appendix D
Class EA - Hydraulic Modelling	03-Sep-13	advised that MNR hydrologists remain concerned that flow models have not be validated or calibrated. It is MNR's position that flows should be maintained in the west channel as close to natural condition as possible.	HEC RAS modeling of the Invahoe River projects was prepared using actual field surveyed bathymetry sections and very precise LiDAR survey for the entire ZOI. There is very little that can be done to increase the accuracy of the modling. Regarding the flow in The Chute west channel, a separate analysis has been prepared and presented to the agencies and bypass flow has be negotiated and agreed with the agencies (see Annex I)	Appendix F
Class EA - Hydraulic Modelling	03-Sep-13	Discussion over the merit of gathering addition flow data ensued. Ideally, flow measurement during low, medium and high flows would be collected, but TM suggested that one set of data would suffice as a means to check the accuracy of the flow models.	This comment is related to the flow spitting between the two channels in The Chute site. Xeneca has completed the flow distribution field measurements and the report has been provided to the agencies. The field measurement values were very close the modeling results.	Appendix F
Class EA - Hydraulic Modelling	03-Sep-13	TM said that once models have been completed that show habitat sustainability can be achieved, he said the approach being taken by Xeneca is sound and meeting MNR's requirements.	This issue has been addressed as requested by MNR and this issue was negotiated and finalized with a number of telephone meetings with the agencies before the release of the final ER.	Appendix F
Natural Environment - Terrestrial Wildlife	17-Sep-13	Terrestrial Window – in agreement of Sept-April Same for bats and birds A 30 m buffer zone need to be provided if a nest is found during the bird survey in breeding season.	this buffer zone has been agreed and included in the Construction Management Plan.	9.3.2, 11.3.2 and 12.3.2
Class EA - Monitoring Plan	17-Sep-13	A multi -year monitoring plan will be required to confirm the compliance and effectiveness of the new habitat created.	the post construction monitoring plan has included the effectiveness of fish habitat compenstation and offseting.	16

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Project Permitting	15-Apr-11	Inquired why the OWRA Permit To Take Water (PTTW) was not listed on one of the presentation slides.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Class EA - Hydraulic Modelling	15-Apr-11	Questioned how the LiDAR survey and bathymetry were tied-in.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	15-Apr-11	Asked how long Xeneca will hold water when flow rate is below Qtmin.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	15-Apr-11	Asked how flow data was reduced/used.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	15-Apr-11	Asked for daily data.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	15-Apr-11	Asked how Xeneca is determining natural lake level fluctuations.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	15-Apr-11	Asked about installing transducers.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Zone of Influence (ZOI)	15-Apr-11	Asked what method was used to map flow affected areas downstream of the projects.	This version of the Draft ER was withdrawn; the comment no longer applies.	3.4
Stakeholder Consultation	15-Apr-11	Asked whether Xeneca had discussions with Hydromega on Kapuskasing River regarding modification of flows, etc.	This version of the Draft ER was withdrawn; the comment no longer applies.	17
Class EA - Hydraulic Modelling	15-Apr-11	Asked how inundation areas were calculated pre/post construction.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Design - Water Flow	15-Apr-11	Asked about storage capacity of projects beyond one day.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Water Flow	15-Apr-11	Asked whether the instantaneous flow data was used to determine return period flood flows.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Class EA - Hydraulic Modelling	15-Apr-11	Asked how the extent of inundation was modeled.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	15-Apr-11	Discussed LiDAR water penetrating technology as option to bathymetric surveys that were carried out.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Design - Water Level	15-Apr-11	Asked about the use of Google Earth to assess river profiles.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Aboriginal Consultation	15-Apr-11	Added that they would like to see summary of FN consultation/engagement as well.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.4
Design - Water Flow and Level	15-Apr-11	Involve MOE to make sure that MOE is in agreement with MNR agreed flows/levels.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Project Permitting	15-Apr-11	Good to identify issues up front. Suggested Xeneca look over environmental bill of rights for Mississippi water region regarding a decision that could have gone better at EA stage instead of PTTW stage.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Design - Alternative Options	15-Apr-11	Questioned alternative options in the EA, without a preferred option. A MNR representative has not seen a project that did this in the past, public loses opportunity to comment after the EA process.	This version of the Draft ER was withdrawn; the comment no longer applies.	6.3 and 18.1
Stakeholder Consultation - Part II Order	19-Apr-11	Added that if there are objections to how the proponent conducted the EA, a request for a Part II Order under the Ontario Environmental Assessment Act can be filed during this period. If resolution is not achieved, the Director of the MOE will issue a decision either denying the request, directing the proponent to correct deficiencies or granting the request for a Part II order.	This version of the Draft ER was withdrawn; the comment no longer applies.	2.2
Class EA - Existing Conditions	19-Apr-11	Sought clarification as to whether the data gaps identified in the draft report would be addressed in the final report.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA Process	19-Apr-11	Commented that this approach (using commitments to complete any outstanding studies) may not meet the requirements of the Class EA process as studies are to occur after the EA is scheduled for completion.	This version of the Draft ER was withdrawn; the comment no longer applies.	2
Stakeholder Consultation - Part II Order	19-Apr-11	Stated that there remains a public consultation requirement to present the data gap findings of these investigations which could otherwise lead to a Part II order request.	This version of the Draft ER was withdrawn; the comment no longer applies.	2.2
Project Permitting	19-Apr-11	Stated that the Potential Approvals List provided in the project description was likely insufficient.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Natural Environment - Surface Water	19-Apr-11	also would have an interest in acid rock drainage.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.2, 11.2 and 12.2

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Baseline Survey	19-Apr-11	Requested a work plan from the NRSI biologists in order to improve the data acquisition during upcoming field investigations as it was noted that the 2010 data would not satisfy the EA requirements.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Construction Waste	19-Apr-11	Suggested that the proponent investigate alternatives for waste disposal since the local landfill does not have the capacity to accept the project's construction waste. Noted the accepting landfill may have to amend its C of A to accept the quantity of waste likely to be generated.	This version of the Draft ER was withdrawn; the comment no longer applies.	4.2.4 and 5.2.4
Natural Environment - Surface Water	19-Apr-11	MOE (ES) identified his role as the surface water quality technical support for the MOE. ES noted that additional information was required for the PTTW application and that methyl mercury resulting from the impoundment of water was of concern to the MOE.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.2, 11.2 and 12.2
Class EA - Baseline Survey	19-Apr-11	Suggested a review of the work plan in order to improve design for sampling otherwise it will have to be repeated.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Baseline Survey	19-Apr-11	Lake sturgeon should be assessed this year due to annual variability, one year would not be sufficient.	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Stakeholder Consultation	28-Apr-11	When information in documents is being updated, Xeneca should be advising agencies so they are aware and able to work from the most current version.	This version of the Draft ER was withdrawn; the comment no longer applies.	17
Design - Water Level	28-Apr-11	How has Xeneca confirmed upstream extent of inundation?	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Aquatic Ecosystem - Flooding	28-Apr-11	Inundation that MNR looks at is flood condition, not NOL. Has this been looked at?	This version of the Draft ER was withdrawn; the comment no longer applies.	12.7.5, 14.1.4 and 14.2.4

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Design - Water Level	28-Apr-11	Will be asked to lower dam if a house would be inundated in the 1:100 year flood scenario.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Water Flow	29-Apr-11	Regarding minimum flow identified in the operating reports presented to date - what was the rationale and can this be explained in the reports.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Water Flow	29-Apr-11	Data needs to consider hourly fluctuations in Modified Run-of-River (MROR) sites because flow will be changing at that frequency.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Water Flow	29-Apr-11	Daily flow data has been shown so far, not hourly flow data.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Water Flow	29-Apr-11	No starting point to know what wetted perimeter/flow requirements are. Conditions that are not measured and data that we don't know are the issues.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Design - Water Flow	29-Apr-11	Based on experience, ROR turbines are designed for 50% exceedance, MROR is less.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Class EA - Hydraulic Modelling	29-Apr-11	Regarding calibrating of unsteady flow, need to measure hourly to calibrate.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	29-Apr-11	Added that natural hourly flow data could be assessed to calibrate, although this could not be monitored over the same range.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Public Consultation	06-Oct-11	The Class EA suggests, in sections 4.1, 4.1.3, 4.2.3 and 6.0, that a public consultation plan be prepared in the early stage of the project in order to inform a meaningful consultation program. The public consultation plan submitted is dated June 16, 2011, which is less than a month prior to the Notice of Completion being issued. The MOE received a draft dated May 17, 2011 of this document on May 19, 2011 (with a note that the draft was prepared on January 13, 2010). Since the plan was not finalized early in the process, Xeneca may not have benefited from the input of the public, agencies and Aboriginal communities as envisaged in the Class EA and the interested parties may have been incorrectly identified.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.3
Public Consultation	06-Oct-11	Section 4.1.3 of the Class EA states: " Early and meaningful engagement of representative interests and publics that may be affected by the project is prudent business practice and a critical element of achieving the intent of the Class EA." Although Xeneca has met the minimum mandatory contact requirements in the Class EA, there are outstanding concerns with the Project and therefore it should have been subject to additional consultation opportunities.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.3

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Public Consultation	06-Oct-11	The Public Information Centres (PIC) were held in January and July 2011, using the information and design concepts from the 2010 field data. Additional opportunities for public, agency and Aboriginal input should be provided when the 2011 field data, and any resulting changes to the Project effects, are available.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.3
Agency Consultation	06-Oct-11	The Agency Coordination Meeting was held on April 19, 2011. Additional agency technical meetings were held on February 11, 2011, April 28 and 29, 2011 as well as June 15, 2011. We note that MOE was not informed about an agency meeting to discuss fish habitat issue on February 11, 2011 and was not given enough notice to attend the June 15, 2011 meeting. The timing of these meetings would not have provided enough time for Xeneca to react to the recommendations given at these meetings for technical and process matters and for data collection requirements.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.5
Class EA - Significant Concerns	06-Oct-11	We have concerns with the approach used by Xeneca to provide commitments in the ER rather than completing the EA process as outlined in the Class EA.	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Stakeholder Consultation - Part II Order	06-Oct-11	We have further concerns since the NoC period offers interested persons and parties an opportunity to submit a Part II Order request (PIIO request), something which will not be available to them if consultation occurs outside of this time period.	This version of the Draft ER was withdrawn; the comment no longer applies.	2.2
Stakeholder Consultation	06-Oct-11	Despite the presentation of the consultation efforts for this Project in Sections 1.4.5 and 4, and Appendices C through E, there is no sufficient detailed information included in the ER to determine that consultation with the public, agencies and aboriginal communities is complete.	This version of the Draft ER was withdrawn; the comment no longer applies.	17
Stakeholder Consultation	06-Oct-11	Sections 4.4.1 and 6.3 of the Class EA requires that the Project documentation detail include: who was concerned; what the concerns were; how those concerns were considered and addressed; and, what the outstanding issues are. This will also be a requirement under section 4.5.1 at the Statement of Completion stage.	This version of the Draft ER was withdrawn; the comment no longer applies.	17
Aboriginal Consultation	06-Oct-11	Section 7.1 of the Class EA states: "Proponents are expected to involve Aboriginal communities who may be directly affected by, or have interest in, the development of a waterpower project and to develop an engagement approach specific to these interests" and "Aboriginal engagement and involvement is intended to allow the proponent to identify and consider the concerns and issues of Aboriginal communities and to provide those communities with an opportunity to receive information about and have meaningful input to the project proposal".	This version of the Draft ER was withdrawn; the comment no longer applies.	17.4

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Aboriginal Consultation	06-Oct-11	The intent of consultation plans is to produce them early in the process to set out the consultation that needs to take place. This is detailed in sections 4.1.3, 4.2.3 and 7.1 of the Class EA. The Ivanhoe Aboriginal Consultation Plan (ACP) is dated May 2011, only two months before the final ER was issued with NoC.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.4
Aboriginal Consultation	06-Oct-11	We note that the ACP was circulated to ten Aboriginal groups on August 10, 2011 - after the NoC was issued on July 14, 2011. We also note , that at least one Aboriginal group has stated that they will not review the ACP until they have a signed agreement with Xeneca. This appears to indicate that the consultation is in its beginning stages and not complete.	This version of the Draft ER was withdrawn; the comment no longer applies.	17.4
Aboriginal Consultation	06-Oct-11	Because of the limited project documentation of the consultation that was undertaken with Aboriginal groups, the MOE NR is not able to properly assess whether sufficient consultation has been completed for the Class EA, nor able to determine the necessity of undertaking consultation for any subsequent MOE approvals (i.e. certificates of approval and permits to take water).	This version of the Draft ER was withdrawn; the comment no longer applies.	17.4
Class EA - Environmental Effects	06-Oct-11	ER supporting documents must contain enough information to demonstrate the potential impacts of the project and identify mitigation measures, to a level that allows the public, Aboriginal communities and agencies to understand the anticipated impacts.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	06-Oct-11	Section 4.2.2 of the Class EA states: "The evaluation, like the entire Class EA process, is proponent-led and will help inform the proponent's approach to obtaining input and information specific to planning and assessing the project. However, it is recommended that the proponent consult with relevant federal and provincial agencies and municipal authorities, approximately qualified persons, potentially affected and interested individuals and the public when completing the potential effects identification matrix. The results of the environmental, social, cultural and economic evaluations are to be used by the proponent to inform the subsequent consultation, data collection and assessment phases of the Class EA process."	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	06-Oct-11	This approach ensures that stakeholders are engaged in a meaningful way that ensures that the proponent takes into account the potential impacts and benefits of the projects and which in turn informs interested parties about the effects of the project on their interests.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	06-Oct-11	There are statements in the ER that refer to future field work and consultation which is to take place. All of the data collection and assessment should have been completed and documented in the ER when the NoC was issued. This would ensure that there is sufficient information available to demonstrate the potential impacts of the project and identify mitigation measures, to a level that allows the public, Aboriginal communities and agencies to understand the anticipated impacts.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Environmental Effects	06-Oct-11	There are several areas on the Effects Matrix in Appendix B where there are outstanding unknown effects and where there is no section in the text that address these items. For example, the item for "Land subject to natural or human-made hazards" is marked as unknown, but there was no study submitted dealing with this issue although the Project is located in a clay belt which may make it more susceptible to the effects of erosion. A geotechnical report should have been conducted and submitted as supporting material to the ER. Similarly, all areas where there were data gaps should have been researched, studied, evaluated and reported in the ER.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	06-Oct-11	Examples of outstanding potential effects where studies have been started but not yet complete: Thermal regime - p.15 of the ER states " Currently, there is limited information available about the existing thermal regime. The creation of an upstream head pond has the potential to affect the existing thermal regime." There is also conflicting information included in the Table of Potential Effects in Appendix B. This is a potential effect that should have been studied to confirm/refute an effect, and if appropriate, assessed and mitigation measures developed prior to the ER being finalized.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	06-Oct-11	Water Quality - baseline data collect of methy mercury will help to inform the mitigation measures to protect water quality and social-economic effects, and to assist interested parties to decide if there are significant effects to them as a result of the proposed project.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	06-Oct-11	General Field Studies - the area of inundation has increased from 2.8km to 6.4km since the original field studies were conducted, and the studies being conducted (in 2011) in the area between these two areas is not reflected in the ER. It is likely that new effects will be discovered in this expanded area of inundation and therefore, the requirement to document effects, and possible mitigation measure is not yet complete.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	06-Oct-11	Archaeological Study - the Stage 1 study recommended a Stage 2 study be conducted due to the high potential of the dam site and surrounding areas to have archaeological value. The Stage 2 study to identify the effects was not completed prior to the ER being issued. The level of detail presented in Class EA Project documentation should be efficient to fulfil the requirements of the approved Class EA and to assure interested parties that the proposed undertaking is technically feasible and achieve environmental protection. Without having completed all studies, proper consultation can not take place, the impacts to the environment can not be known and/or confirmed, mitigation cannot be proposed and net effects cannot be described.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	06-Oct-11	Section 4.3.1 of the Class EA outlines an approach to assessing effects. Since the zone of influence is still uncertain (see comments below under TECHNICAL ISSUES) and all data has not yet been collected, the identification of all effects cannot be complete and therefore any evaluation of net environmental effects is premature. From the documentation presented, all effects have not been identified, assessed and consulted upon.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
General - Document Control	06-Oct-11	Section 4.4.1 of the Class EA provides a list of required elements to be included in the ER document. Attached for your convenience is Table 1 which outlines those required elements and MOE NR's evaluation of the assessment completed and the documentation submitted.	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Class EA - Project Purpose	06-Oct-11	<p>Table 1 - Mandatory Requirements for the Environmental Report (for The Chute) 4.4.1 Environmental Report In accordance with Section 4.4.1 of the Waterpower Class EA, the ER must contain:</p> <p>Background information (project description, purpose): The Executive Summary and section 3 provide a description of the proposed undertaking and include information on: Design options and rationale Generating station and components Ancillary works Construction strategy Operation strategy</p> <p>Section 1.2 - provides a brief statement on the purpose of the undertaking "construction of the 3.6MW hydroelectric generating station... to meet government and energy regulatory goals and objective to generate sustainable and reliable hydroelectric power." No further description of the purpose of the undertaking is provided in the ER.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	1.2
Class EA - Study Area	06-Oct-11	Page 2 - Figure 1 provides a map of the project location but with very few reference points (Highway, Townsite). The study area is not shown on this map. The study area should correspond with the identified zone of influence.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix O
Class EA - Study Area	06-Oct-11	<p>Page 7 explains that literature reviews, field investigations and aerial photography were utilized.</p> <p>Section 2 provides a description of the existing environment within the study area, defined as the 2.8 ha inundation area (now proposed to 6.4 ha). Considered a broad definition of the environment including natural, socio-economic, and cultural environment.</p> <p>Page 1 of the Forward states that as a "proactive position", environmental studies/field investigations are planned for 2011. In order to meet the requirements of the Class EA, studies should be undertaken for the entire study area in order for interested parties to review the work that has been completed in order to provide comments on the probable effects and proposed mitigation.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix O

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Natural Environment - Land	06-Oct-11	Contained in Tables 4 and 5 of the ER This table is not complete there are a great deal of unknowns presented in this table indicating that further studies will be completed at a later time to assess effects and propose mitigation. There are several examples in the table that show it is incomplete and data deficient including: (1) Lands subject to natural and human made hazards-Unknown-Field investigation will be conducted to assess presence/absence of natural hazards.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.1.3, 11.1.3 and 12.1.3
Natural Environment - Natural Heritage	06-Oct-11	(2) Significant natural heritage and features and areas-Unknown-Field studies conducted in 2010 and significance of identified habitats will be determined. Mitigation measures will be developed - the 2011 data will needs to be incorporated into the ER in order for it to be complete.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4.8, 11.4.8 and 12.4.8
Natural Environment - Significant Features	06-Oct-11	(3) Significant earth or life science features - Unknown - the results of the 2010 field investigation will be assessed for presence/absence of significant earth or life science features.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3.5, 11.3.5 and 12.3.5
Aquatic Ecosystem - Fish Migration	06-Oct-11	(4) Fish migration - Unknown - Fisheries investigation will be undertaken to determine where critical spawning habitats are located and if the dams would block migration to these habitats.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4.2, 11.4.2 and 12.4.2
Class EA - Environmental Effects	06-Oct-11	Section 5.1 (page 72● 74) provides a list of the identified potential effects. However, Xeneca states that additional assessment of effects will be undertaken subsequent to the 2011 field investigations (refer to p. 71). They refer each effect to table 4. The assessment of potential effects should be described as outline in section 4.3.1 of the Class EA. The proponent should provide: <ul style="list-style-type: none"> ● The potential negative effects ● The relative level of the effect ● The mitigation or impact managment measures that will be used. ● Any individual net effects (after mitigation) and their significance ● The overall positive, neutral and negative effects of the project. 	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	06-Oct-11	Also, in Table 4, there are several examples where the mitigation measures, resolution and residual effects can not be determined because additional studies must be completed. Examples in the table include:	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Natural Environment - Surface Water	06-Oct-11	(1) Water Quality - Reduced Dissolved Oxygen levels in as a result of the reduced flows and mixing downstreams of the facility - residual effect unknown due to outstanding data and information.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.2, 11.2 and 12.2
Natural Environment - Surface Water	06-Oct-11	(2) Water Quality - Inundation resulting in elevated levels of methyl-mercury in water - Unknown due to outstanding data and information (this is important because they will be holding water in the headpond and this had potential to increase mercury levels.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.2, 11.2 and 12.2
Natural Environment - Terrestrial Wildlife	06-Oct-11	(3) Terrestrial Wildlife - Access Road Construction - Mitigation to be determined -Unknown due to outstanding data and informaiton.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3.2, 11.3.2 and 12.3.2
Natural Environment - Terrestrial Wildlife	06-Oct-11	(4) Terrestrial Wildlife - Connection Line Construction - Unknown due to outstanding data and information.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.3.2, 11.3.2 and 12.3.2
Aquatic Ecosystem - Fish Habitat	06-Oct-11	(5) Fish habitat - impacts to Brook Trout and their habitat - in order to identify potential impacts and develop appropriate mitigation further investigation are required - residual effects are "assumed" to be yes.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4.1, 11.4.1 and 12.4.1
Class EA - Environmental Effects	06-Oct-11	Based on the information in the table alone, it does not appear that the effects and the mitigation measures or the residual effects have been assessed at the appropriate level in the ER.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Public and Agency Consultation	06-Oct-11	<p>Page 8-9 and Section 4.3 & 4.5 provide a list of agencies/communities contacted. Section 4 - provides a summary of the stakeholder consultation occurred:</p> <ul style="list-style-type: none"> - As stated in Section 4.4, public consultation included public information sessions, public interest group meetings and correspondences, newspaper notices and advertisements, and a project web site. Appendix D provides a record of the consultation activities that took place. - Government agency consultation included direct and/or teleconference meetings, circulation of notices and project description. Section 4.3 provides a summary of the consultation events with specific federal, provincial and municipal stakeholders. Appendix C provides a record of the consultation (i.e. correspondences, meeting minutes etc.) that took place. <p>The technical issues section of this document reveals that there are still outstanding issues for government agencies. This suggest that the proponent has not completed the requirements in the Class EA for Public and Agency Consultation as these have not been addressed in the final ER and there is no final report on the outcomes of the Public Consultation Plan. Appendix D provides a long list of emails and meeting minutes that does not seem to be complete as there are meeting mintues that are missing from April 28 and 29 (only an actions sheet) and there is nothing from June 15 technical meeting.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	17
Aboriginal Consultation	06-Oct-11	<p>As stated in Section 4.5, Aboriginal community consultation includes correspondence, community meetings and agreement negotiations.</p> <p>The Aboriginal Consultation Plan was only provided to the 10 Aboriginal Communities potentially affected on August 10, 2011, which suggests that the consultation period has only begun and has not been completed for this project. It also suggests that Aboriginal comments on this project have not yet been incorporated into the ER.</p> <p>There is not enough information presented in the ER for MOE to make determination of whether adequate consultation has taken place.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	17.4
Class EA - Residual Effects	06-Oct-11	<p>Section 6 briefly describes the methodology (including criteria for assessing significance of the impacts)</p> <p>Table 5 summarizes the assessment of the residual effects (including positive impacts). Table 5 includes assumptions from table 4, which is discussed above as not being complete as data collection is still required for many environmental components.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Tables 31 and 40
Class EA - Mitigation Measures	06-Oct-11	<p>Table 4 includes a summary of recommended mitigation.</p> <p>As discussed above, the planned avoidance/prevention/mitigation for negative effects are not complete as table 4 identifies a multitude of issues for which data is still required to evaluate the potential measures to be taken. This is not complete in the ER.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	11 and 12

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Advantages and Disadvantages	06-Oct-11	<p>The discussion of advantages and disadvantages is intermittent throughout Section 5.</p> <p>There is also a section on "Potential Project Effects" in the Executive Summary which outlines the Negative and Positive impacts. Some advantages are described in the Executive Summary including:</p> <ul style="list-style-type: none"> ● Displacement for the need for fossil fuel or nuclear electricity ● Providing positive benefits to power grid ● Provides positive financial benefits to local and provincial governments ● Job opportunities in the surrounding townships (mentioned in 5.1.11 as well) <p>Negative or disadvantages include:</p> <ul style="list-style-type: none"> ● The creation of head pond 6.4km upstream (which has actually been determined to be beyond this 6.4km) ● Fluctuations in water levels up and downstream ● Water temperature to fluctuations in head pond ● Navigation will be reduced/changed (section 5) ● Reduction in natural aesthetics at the site location <p>There was no detailed on the balancing of benefits that may offset the negative impacts and therefore the ER is not complete.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Class EA - Monitoring Plan	06-Oct-11	<p>Section 8 provides a description of construction and operation monitoring. This section is very brief and does not discuss the mechanisms for implementation. It does however provide a statement that a regular Project Implementation Plan will be provided to agencies to update the project status, implementation of commitments and results from effects and mitigation programs (effect and mitigation should have been provided as a requirement of section 4.4.1 of the Class EA and not in a separate report outside of the commenting period). There is no indication on to whom, when and how the proponent proposes to provide these reports.</p> <p>Section 10 also provides ad list of commitments made by Xeneca as the project proceeds wich includes the Project Implementation Plan.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	16

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Area of Inundation	06-Oct-11	<p>The proposed area of inundation is 6.8km (6.4km upstream of the dam and 400 meters downstream of the dam). Hydraulic Modelling was used to determine the area of inundation and the modelling was found to have a number of uncertainties which reduce credibility of the results. These uncertainties include:</p> <ul style="list-style-type: none"> ● Out of the 6.8km reach only 1km of reach was surveyed for river transects ● 85% of modelling reach did not have any surveyed transects ● Hydraulic controls were not surveyed (riffes and rapids) ● Model was calibrated to 1km of reach and not the entire length of the reach ● Large discrepancy between observed and modelled results, elevation were overestimated in modelling and underestimated during validation ● Third Falls Generating Station was not considered in the modeling which could have significant effects on the downstream reach ● Inconsistency in the spillway structure throughout modelling (in HES● RAS model used an inline ogee spillway and in electronic file used a lateral broad crested weir) ● Crest elevation was 297m in the model which is 1m below the operating headwater level ● Current modeling results reveal that inundation will go further upstream than 6.4km which can not be computed due to the lack of survey data <p>It is MOE's recommendation to remodel in order to achieve more accurate results.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix O
Design - Water Flow	06-Oct-11	<p>The Chute project is adjacent to the Clay Belt Conservation Reserve. In order to preserve ecological viability, a monthly Q80 flows at the boundary into the Conservation Reserve should be maintained at all times, provided that the natural inflow at The Chute is at least Q80. The proposed compensation and environmental flow is Q99 which appears to be low.</p> <p>MOE requires that the proponent provide justification for the proposed minimum flow.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix D
Class EA - Monitoring Plan	06-Oct-11	<p>The fish tissue and contaminant monitoring completed to date is inadequate to assess impacts to The Chute. Water quality monitoring has been limited, only 2 sampling events have been completed; one upstream and one downstream. Shortcoming in the sampling and reporting include:</p> <ul style="list-style-type: none"> ● Missing an upstream reference location that would not be affected by inundation ● Sampling events insufficient to characterize temporal variability ● Samples had high Zn concentrations suggesting potential sample collection or lab analytical problems ● Dissolved Oxygen measurements did not include near sediment or surface and time of day not recorded ● Missing wate quality parameters ● Water sample collection method not provided ● A map showing sampling locations and the boundaries of proposed inundations not provided <p>MOE recommends that the proponent should address these issues as a part of a more fulsome baseline characterization in 2011. The baseline and post-development monitoring program should be developed with input from Northern Region's Water Resources Unit.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	16
Class EA - Monitoring Plan	06-Oct-11	<p>Table 4 - General construction activitites along shoreline of waterways: this issue identifies that turbidity of water will be monitored during construction.</p> <p>MOE requires details of how where and when turbidity monitoring will be occurring.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	16

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Monitoring Plan	06-Oct-11	Table 4 - Intermittent Operation of Facility - Increase in suspended sediment: this issue notes that maximum suspended sediment concentration should not decrease the Secchi disc reading by more than 10%. MOE requires that the proponent provides specifics of turbidity monitoring locations, frequency and method during operation.	This version of the Draft ER was withdrawn; the comment no longer applies.	16
Natural Environment - Surface Water	06-Oct-11	Table 4 - Inundation Resulting in Elevated levels of Methyl Mercury in water: this issue states that mitigation will be removal of terrestrial vegetation and woody debris. MOE recommends that soil be included as an additional source of mercury.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.2, 11.2 and 12.2
Class EA - Monitoring Plan	06-Oct-11	The 2011 Field Plan contains sampling of fish tissue within the current inundation, but that does not constitute adequate baseline monitoring. Enhanced mercury methylation and increased mercury levels in fish are associated with new reservoirs and data will need to be collected to support public fish consumption advisories. MOE recommends developing a detailed surface water and fish monitoring plan.	This version of the Draft ER was withdrawn; the comment no longer applies.	16
Natural Environment - Surface Water	06-Oct-11	Creation of the head pond will increase water surface area and many reducing flushing, potentially affecting dissolved oxygen levels. The location of the head pond in relation to the mixing zone for nutrients from the Foleyet Waste Water Treatment Plant should be determined. MOE requires that Reduced Dissolved Oxygen Concentrations in the Head Pond be added as an issue in Table 4.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.2, 11.2 and 12.2
Natural Environment - Soils and Sediment	06-Oct-11	Table 3 - Soil and Sediment Quality - Management of Excavated Materials: MOE recommends this issue section include detail on how Acid Rock Drainage will be assessed.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.1.4, 11.1.4 and 12.1.4
Class EA - Cumulative Effects	06-Oct-11	The ER references the proposed Third Falls Project upstream of The Chute. The proponent suggests that the cumulative effects of the Third Falls Project on the Chute will be evaluated should the Third Falls project proceed as a separate ER. There are anticipated implications of Third Falls proceeding on effects evaluated and described in The Chute ER. The MOE has determined that because of the proximity of these two dams and the cumulative effects they may have on each other, the two projects should be modelled together to inform The Chute EA.	This version of the Draft ER was withdrawn; the comment no longer applies.	13

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Cumulative Effects	06-Oct-11	<p>Section 7 - Cumulative Effects - The proponent states in the ER that "The assessment of cumulative effects outlined below is based on a precautionary approach... As additional information about The Chute and other projects become available, the characterization and assessment of cumulative effects will be further discussed.." It also states that they have only assessed the "potential cumulative effects" and under " Third Falls GS" it states that "If both projects are built, there would then be a total of three structures on the river where only one currently exists and there may be cumulative effects associated with intermittent operation and inundation."</p> <p>Table 6 provides a summary of potential cumulative effects, however there has been no detailed modelling or studies completed to support this.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	13
Class EA - Social and Economic Effects	06-Oct-11	<p>The Potential Effects Identification Matrix identifies effects on:</p> <ul style="list-style-type: none"> -The location of people businesses, institutions or public facilities as Unknown will be identified later by consulting with local residents and businesses. -Community character enjoyment of property or local amenities as Unknown and to be determined. 	This version of the Draft ER was withdrawn; the comment no longer applies.	9.7, 11.7 and 12.7
Class EA - Social and Economic Effects	06-Oct-11	There was no data or analysis completed to evaluate the impacts to tourism.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.7, 11.7 and 12.7
Class EA - Social and Economic Effects	06-Oct-11	The proponent is relying on a Usage Survey, which has not yet been completed, and not financial analysis to determine the effect on the local economy.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.7, 11.7 and 12.7
Class EA - Social and Economic Effects	06-Oct-11	Studies should be completed prior to the submission of the ER and findings should be discussed in the report in order to determine the positive and negative effects on the local area.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.7, 11.7 and 12.7
Class EA - Social and Economic Effects	06-Oct-11	<p>Elevated levels of methyl mercury in fish tissue also present a socio-economic impact and of particular interest to some Aboriginal communities which is also not addressed in the ER.</p> <p>MOE recommends evaluating impacts to the local economy using a financial analysis and also recommends addressing the socio-economic effects of the contaminated fish to the area.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.7, 11.7 and 12.7

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Archaeological Effects	06-Oct-11	<p>The Potential Effects Identification Matrix identifies cultural heritage resource considerations, Archaeological sites that there are no known sites. It also notes that a Stage One Archaeological Assessment was completed and that the findings of a Stage Two study will inform mitigation.</p> <p>The ER notes that Woodland Heritage Services recommends a Stage II Archaeological Study and a Stage II field survey be completed and made available to the project team, public and aboriginal groups in order for them to comments and determine if there were impacts to their interests. This had not yet been completed and therefore effects cannot be known. This does not satisfy the requirements of the Class EA or the EAA.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.8
Class EA - Construction Waste	06-Oct-11	MOE has previously indicated to Xeneca that the existing landfill site did not have the capacity to accept waste from this project. The ER did not identify a site with the available capacity to accept waste from this project and page 35 of the ER notes that the proponent has not yet found a landfill site within the area that will be able to accept waste from the site. They also note that any site found may require an amendment to the CofA.	This version of the Draft ER was withdrawn; the comment no longer applies.	4.2.4 and 5.2.4
Class EA - Hazardous Waste	06-Oct-11	The proponent has identified the potential of hazardous waste to be created during construction and though they commit to disposing of it inline with the Reg. 347 under the EPA, they have not identified a facility that would be able to take the waste.	This version of the Draft ER was withdrawn; the comment no longer applies.	4.2.4 and 5.2.4
Class EA - Considerations of Options	06-Oct-11	<p>Considerations of Options</p> <p>There are currently two options in the ER with no clear preference presented. The ER states that effects will essentially be the same for each option however this may not be the case for matters such as spawning beds and archaeological values. The ER should clearly identify the values found and how the values are impacted by each option using completed field studies.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	6.3 and 18.1
Class EA - Zone of Influence (ZOI)	06-Oct-11	<p>Identifying the Zone of Influence (ZOI) is essential to ensuring that all potential effects are identified and considered during the Class EA process. The ZOI should include all areas where effects could occur, including the entire inundation area and area downstream.</p> <p>The field work to date that is included in the submitted ER includes the former inundation area of 2.8 km upstream of The Chutes. The inundation area is now proposed to be 6.4 km and is currently being studied but the ER does not include this information. It is likely that there are significant effects that will be discovered in the 2011 field studies that not not included in the ER. There is also a possibility that the additional hydrological work recommended below will result in the ZOI extending beyond the 6.4km and that area will also need to be studied. The downstream ZOI also extends beyond the 400 m presented in the ER.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	3.4
Class EA - Hydraulic Modelling	06-Oct-11	<p>Hydrology and Hydraulics:</p> <p>HEC-RAS Hydraulic Modelling</p> <p>Hydraulic modelling was used to determine area of inundation upstream of the dam and to determine downstream effects on flow and water level due to peaking operation of the proposed generating station. The hydraulic modelling is critical because the determination of the extend of effects are dependant on the modeling results.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Hydraulic Modelling	06-Oct-11	(i) Hydraulic modeling was done for an approximately 6.8km long river reach coinciding with the LIDAR survey boundary, of which 6.4km were upstream of the dam and the remaining 400m were downstream of the dam. out of this 6.8km reach, only one kilometer of reach was surveyed for river transects. A total of eight surveyed transects were used, of which four transects were upstream of the dam over a distance of 590m and teh remaining four transects were downstream of the dam over a distance of approximately 400m.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	06-Oct-11	(ii) Almost 85% of the modeling reach did not have any surveyed transects. Assumed transects were used for this un-surveyed reach using LIDAR survey and bathymetry data.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	06-Oct-11	(iii) Most critical hydraulic controls such as rapids and riffles were not surveyed; these have significant impacts on backwater water surface elevations.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	06-Oct-11	(iv) The model was calibrated and validated for only a one kilometer long reach instead of for the entire length. As a result there is uncertainty about the credibility of the modeling results beyond 590m upstream and 400m downstream of the proposed dam.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	06-Oct-11	(v) Calibration and validation results were not satisfactory. A large discrepancy between observed and modeled results was noted. For example, during calibration, the model produced a water surface elevation 27 cm (11 inch) higher than the observed elevation at a distance 590 m upstream of The Chute, and during validation the model behaved the opposite way, producing a 23 cm (9 inch) lower elevation than the observed elevation at the same location. In other words, the differences between observed and predicted values were high and inconsistent, overestimated during calibration and underestimated during validation.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	06-Oct-11	(vi) Only one measured flow and corresponding surveyed water surface elevation was used during calibration and during validation prorated flow from the Water Survey of Canada (WSC) station at Foleyet was used. Flow was prorated using drainage area ratio, which has uncertainty, as our own flow measurement near the project site indicates flows between the WSC station and the project site are not linearly related.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	06-Oct-11	(vii) For steady flow modeling, both the upstream and downstream reaches were modeled concurrently, ignoring the reality of the unsteady flow of the downstream reach due to a peaking operation of the proposed generating station. It would be more pratical if the upstream reach were modeled independantly for steady flow and downstream reach were modeled seperatedly for unsteady flow. In addition, the bypass reach, the reach of the river from the base of the dam to the tailrace should be modeled independantly with the proposed minimum bypass flow to demonstrate ecological significance of the proposed minimum flow.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Hydraulic Modelling	06-Oct-11	(viii) Modeling of the downstream reach could be quite different if the effects of the proposed Third Falls Generating Station were considered.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	06-Oct-11	(ix) The HEC-RAS modeling report (section 4.4, page 9 of Annex 1-D) indicates the dam was modeled as an inline ogee spillway structure whereas, the electronic modeling file shows the structure was modeled as lateral broad crested weir. The modeling should accurately reflect the project details.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	06-Oct-11	(x) The crest elevation of the dam was considered to be 297 m which was 1 m below the normal operating headwater level of 298 m. This had enormous potential of understanding the water surface elevation of the backwater profile.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	06-Oct-11	(xi) The Oats Road Bridge was not considered in the model, which has the potential of producing a backwater effect.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	06-Oct-11	Because of the these uncertainties in the modeling work addressed at (i) to (xi) above, it is recommended that remodelling be completed. MOE NR staff are available to meet with you and discuss specifics that should be considered when remodeling.	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F
Class EA - Hydraulic Modelling	06-Oct-11	<p>The following compensatory and minimum environmental flows were proposed by Xeneca: Downstream environmental flow target: Spring-note intermittent operation; Summer- 2.6; Fall-2.3; Winter-2.3; Compensatory flow between tailrace and dam: Spring-1.0+Spillway; Summer-0.5; Fall - 0.5; Winter - 0.5. Note: all numerical values are in cubic meters per second.</p> <p>In order to preserve the ecological viability of the Clay Belt Conservation Reserve, montly Q80 flows at the boundary into the Conservation Reserve will be maintained at all times, provided that the natural inflow at The Chute is at least Q80.</p> <p>Statically, the proposed compensation and enviornmental flow seem quite low, close to Q99 (flow exceeding 99% of the time). The ecological rational of the proposed minimum flow needs to be provided in the ER. Attributes of the proposed flows in terms of depth, velocity and wetted perimeter and explanations of their implications for the protection of the natural functions of the river reach also need to be included in the ER.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Appendix F

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Baseline Survey	06-Oct-11	<p>Water Quality, Benthic Invertebrates , Mercury:</p> <p>The water quality and fish tissue contaminant monitoring done to date and proposed will be inadequate to assess impacts from Project, as described below. Annex IV of the ER contained a letter report prepared by WESA Inc. for Xeneca entitled "Surface Water Quality Monitoring Program Ivanhoe (The Chute), Ontario" dated February 24, 2011. The water quality monitoring conducted in 2011 was limited, consisting of two sampling events at one location upstream and one location downstream of the proposed dam. Shortcomings in the sampling and reporting are as follows:</p> <ul style="list-style-type: none"> ● Missing is an upstream reference location that would not be affected by inundation. ● The number of sampling events was insufficient to characterize temporal variability. ● Individual samples had very high zinc concentrations suggesting potential sample collection or lab analytical problem. ● Dissolved oxygen measurements did not include near-surface and near-sediment and time of day was not recorded. ● Missing water quality parameters include low level mercury and dissolved organic carbon ● Details of water sample collection method were not provided. ● A map showing all sampling locations and boundaries of the proposed inundations was not provided. <p>The shortcomings noted above for the 2010 sampling program should be addressed as part of a more complete baseline characterization in 2011. The baseline and post-development monitoring program (e.g. sampling locations, frequency, parameters) should be developed with input from our NR's Water Resources Unit.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Environmental Effects	06-Oct-11	It follows that the potential effects identification, in addition to those listed in the report, should include: (a) fish consumption advisories for anglers due to elevated mercury in fish tissue; and (b) dissolved oxygen in the head pond.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Monitoring Plan	06-Oct-11	<p>The list of Identified Issues and Management Strategies in Table 4 of the ER has the following shortcomings.</p> <ul style="list-style-type: none"> ● General Construction Activities Along Shoreline of Waterway. Turbidity of water close to construction site will be monitored. Details of how, where, and when turbidity monitoring will occur during construction should be included in the ER. 	This version of the Draft ER was withdrawn; the comment no longer applies.	16
Class EA - Monitoring Plan	06-Oct-11	<ul style="list-style-type: none"> ● Intermittent Operation of Facility - Increase in Suspended Sediment. It is noted that maximum suspended sediment concentration should not decrease the Secchi disc reading by more than 10%. Specifics of turbidity monitoring locations, frequency and method. 	This version of the Draft ER was withdrawn; the comment no longer applies.	16
Class EA - Monitoring Plan	06-Oct-11	<ul style="list-style-type: none"> ● Inundation Resulting in Elevated Levels of Methyl Mercury in water. Mitigation proposed is removal of terrestrial vegetation and woody debris. Soil should be included as an additional source of mercury. The 2011 Field Plan in Annex III, Appendix V contains some sampling of fish tissue within the currently identified ZOI, but that does not constitute adequate baseline monitoring. Enhanced mercury methylation and elevated mercury levels in fish tissue are associated with new reservoirs and it will be important to collect data to support public fish consumption advisories. A detailed surface water and fish monitoring plan should be developed. 	This version of the Draft ER was withdrawn; the comment no longer applies.	16

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Natural Environment - Surface Water	06-Oct-11	<ul style="list-style-type: none"> Creation of the head pond will increase water surface area and may reduce flushing, potentially affecting dissolved oxygen levels in the head pond. The location of the head pond relative to the mixing zone for nutrients from the Foleyet Waste Water Treatment Plan should be determined. Reduced Dissolved Oxygen Concentrations in the Head Pond should be included in Table 4 as an effect. 	This version of the Draft ER was withdrawn; the comment no longer applies.	9.2, 11.2 and 12.2
Natural Environment - Soils and Sediment	06-Oct-11	<ul style="list-style-type: none"> Soil and sediment quality - Management of Excavated Materials (e.g. blast rock). Details should be provided of how Acid Rock Drainage (ARD) will be assessed. 	This version of the Draft ER was withdrawn; the comment no longer applies.	9.1.4, 11.1.4 and 12.1.4
Class EA - Social and Economic Effects	06-Oct-11	Economic/Socio-economic Effects: There was no financial data or analysis submitted to evaluate the economic impacts to tourism. While a qualitative usage survey (not yet complete) will be used, a quantitative financial analysis in order to evaluate the effects of the Project on the local economy should be presented.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.7, 11.7 and 12.7
Class EA - Social and Economic Effects	06-Oct-11	Elevated levels of methyl mercury in fish tissue is also a socio-economic impact since it may impact on recommended consumption levels and should be addressed in the ER.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.7, 11.7 and 12.7
Class EA - Cumulative Effects	06-Oct-11	In different places in the ER, there are reference to Third Falls. Another Xeneca project downstream. There are suggestions that the project may not proceed and that if it does proceed, cumulative impacts would be addressed at that time. There are anticipated implications of Third Falls proceeding on effects evaluated and described in The Chute project ER and therefore the two projects should have been modelled together in order to inform The Chute Class EA.	This version of the Draft ER was withdrawn; the comment no longer applies.	13
Stakeholder Consultation	06-Oct-11	The result of the Stage II study should have been available to the project team to assess the effects, and to the public, agencies and Aboriginal groups to determine if there were impacts to their interests.	This version of the Draft ER was withdrawn; the comment no longer applies.	17
Class EA - Construction Waste	06-Oct-11	MOE NR had previously indicated to Xeneca that the existing landfill did not have capacity to accept the waste from the project. No alternative site was identified in the ER submitted and this should have been included in the ER documents.	This version of the Draft ER was withdrawn; the comment no longer applies.	4.2.4 and 5.2.4
Project Permitting	06-Oct-11	When planning the permitting for the Project, Xeneca should be made aware that MOE will only consider a short-term Permit to Take Water (PTTW) for the operation of the facility until the amendment to the Mattagami River Water Management Plan (WMP) has been approved. We noted that it does not appear that Xeneca has taken the opportunity to coordinate the Class EA process and the Water Management Planning process.	This version of the Draft ER was withdrawn; the comment no longer applies.	7

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Class EA Process	06-Oct-11	The ER submitted for Project on July 14, 2011 does not effectively report on meeting key principles of the Class EA process: consultation with potentially affected and other interested persons; consideration of all aspects of the environment; systematic evaluation of net environmental effects; and , provision of clear, and complete documentation.	This version of the Draft ER was withdrawn; the comment no longer applies.	2
Stakeholder Consultation - Part II Order	02-Mar-12	Under Section 13 of the Environmental Assessment Act (EAA), a proponent of an undertaking subject to a class environmental assessment shall not proceed with the undertaking unless the proponent does so in accordance with the class environmental assessment (in the alternative, the proponent may carry out an individual environmental assessment). Staff of the MOE have reviewed the Project's Environmental Report and I have determined that the Project was not planned in accordance with the requirements of the OWA Class EA. Therefore, the Minister of Environment is unable to consider the Part II Order requests at this time.	2011 ER NOC withdrawn. Draft ER resubmitted 2013	2.2
Class EA - Significant Concerns	02-Mar-12	Based on MOE's review of the Environmental Report, Xeneca has failed to meet the OWA Class EA requirements in the following ways: baseline data and assessment of potential impacts and associated mitigation is incomplete; insufficient public and Aboriginal consultation and engagement as a result of significant Project changes; and lack of traceability and transparency in Xeneca's decision-making process and associated documentation. Furthermore, I have concerns that Xeneca proceed with the issuance of its Notice of Completion for the Environmental Report despite the outstanding environmental issues identified by both the MOE's Northern Region, and Ministry of Natural Resources (MNR).		n/a
Class EA - Impact Assessment	02-Mar-12	Based on MOE staff review of the Environmental Report, Xeneca has not completed the project assessment phase of the OWA Class EA because the project was not fully assessed, the impacts of the additional ZOI (3.6 km) was not evaluated, and the documented assessment work in the Environmental Report is incomplete.		n/a
Class EA - Impact Assessment	02-Mar-12	It is my understanding that the stated ZOI of the Project have more than doubled since the start of the OWA Class EA planning process from 2.8 km to 6.4 km. I understood that Xeneca has completed some additional studies on the additional ZOI since the posting of the Notice of Completion for the project; however, the evaluation of the potential environmental effects of the additional ZOI is incomplete and the additional studies are not documented in the Environmental Report. Also, I understand that the MNR and MOE's Northern Region have outstanding concerns with the current ZOI because of deficient hydrology modelling and analysis. Without sufficient baseline environmental information to confirm whether the current ZOI is appropriate, a thorough assessment of effects cannot be complete.		n/a
Class EA - Impact Assessment	02-Mar-12	Propponents are required to ensure that all potential impacts are identified, assessed and mitigated as part of the OWA Class EA planning process prior to finalizing the Environmental Report and posting of the Notice of Completion. Part II order requesters raise concerns relating to visual aesthetics, navigable waters and tourism which are potential effects identified in the environmental report as either unknown and/or outstanding data. Commitments in the Environmental Report to complete data collection and assessment of effects post EA does not provide the public, Aboriginal communities and agencies with a meaningful opportunity to provide input on the Project nor to submit a Part II Order request on a complete Class EA study.		n/a

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Stakeholder Consultation	02-Mar-12	A key aspects of Phase I (Project Concept) under the OWA Class EA is the development of public and Aboriginal consultation and engagement plans. The public and Aboriginal Consultation Plans are to be developed in the early planning stages of the projects in order to inform a meaningful consultation program with the public and Aboriginal communities. The Notice of Commencement for the Project (Phase 2 in the OWA Class EA) was issued in December 2010, but the Public and Aboriginal Consultation Plans for the Project are dated May and June 2011, respectively. The plans should have been developed and implemented during the Phase I of the OWA Class EA process.	Point acknowledged, However, Aboriginal consultation plans must also take into consideration the preference of the respective Aboriginal communities in how and when they chose to engage in consultation. In remaining respectful of the First Nation Communities, consultation plans were developed at a later stage. Xeneca now has established partnership with affected Aboriginal communities. With three PICs, one Water management planning public meeting and an opening public meeting in Foleyet as well as web site postings, newspaper advertising, email and regular mail correspondence, phone calls and meetings with groups and individuals, a lengthy period for Draft ER review and now the final ER, Public Consultation has met or exceeded the requirements of the OWA Class EA .	17
Stakeholder Consultation	02-Mar-12	MOE staff have concerns with how information was communicated to the public and Aboriginal communities as a result of considerable changes to the Project description, planning process and the stated ZOI. Based on MOE staff review of the Environmental Report and the Public Information Centre (PIC) materials, the change in the ZOI was only communicated at the July 6 and 7 PICs, just one week prior to posting the Notice of Completion of the Environmental Report. In the MOE's view, this prevented the public and Aboriginal communities from having a meaningful opportunity to be engaged in Project planning and to have their interests and concerns considered and/or addressed as part of Xeneca's planning process. Also, based on the materials, Xeneca does not appear to have presented information on the assessment of the effects of the Project in this entirety (current ZOI, new access road, location of powerhouse) and the assessment of the effects of the additional 3.6 km ZOI was not communicated to the public at either of the July 2011 PICs.	Further to the July 6 and 7, 2012 PICs Xeneca has held additional public meetings including an Oct 16, 2013 public meeting which provided project updates including the merger of the Third Fall and Chute Projects. As well stakeholders were presented with changes to the project design and operation, responses to previous stakeholder questions, and an overview of the water management planning process. In addition, the public has had several months to review a draft ER prior to the release of the final ER. Public Consultation has now met or exceed OWA Class EA requirements.	17
Aboriginal Consultation	02-Mar-12	Specific to Aboriginal Consultation, Section 4.1.3 of the OWA Class EA states that proponents need to engage with Aboriginal communities to allow them to contribute to and inform decisions relating to a project. The Environmental Report states that Xeneca has not consulted with individual Aboriginal communities to gather information specific to land and water use. Although the MNR's Site Information Package, included in the supporting documentation to the Environmental Report, indicates that several Aboriginal communities have preliminary interests and concerns about the Project, the Environmental Report does not document how these concerns were considered or addressed during Project planning.		17.4
Aboriginal Consultation	02-Mar-12	In the Environmental Report, Xeneca commits to engaging with Aboriginal communities after the posting of the Notice of Completion. While ongoing consultation is encouraged, such a commitment is not a substitute for engaging Aboriginal communities in a meaningful way during project planning (i.e. prior to issuing the Notice of Completion). The OWA Class EA states in section 7.1 that "Proponents are expected to involve Aboriginal communities who may be directly affected by, or have an interest in, the development of a waterpower project" and in section 4.1.3 that "Early and meaningful engagement of representative interests and public that may be affected by the Project is [...] a critical element of achieving the intent of the OWA Class EA."		17.4

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Stakeholder Consultation	02-Mar-12	Overall, there is insufficient information in the Environmental Report to demonstrate the potential impacts of the Project and identify mitigation measures, to a level that would have allowed Aboriginal communities and the public to understand the anticipated impacts and provide comments on the Project in its entirety.	Xeneca has held additional public meetings including an Oct 16, 2013 public meeting which provided project updates including the merger of the Third Fall and Chute Projects. As well stakeholders were presented with changes to the project design and operation, responses to previous stakeholder questions, and an overview of the water management planning process. In addition, the public has had several months to review a draft ER prior to the release of the final ER. This has provided stakeholders and Aboriginal Communities to understand the impacts and provide comments on the entire project. Consultation has now met or exceeded OWA Class EA requirements.	17
Stakeholder Consultation	02-Mar-12	Xeneca's issuance of the Notice of Completion on July 14, 2011 for the Environmental Report was premature given that: the assessment of effects for the Project in its entirety and mitigation are not complete; the change in Project scope is not adequately explained and documented; and, the location of the powerhouse has not yet been determined. The decision making process employed by Xeneca is not transparent and not clearly documented in the Environmental Report in order to meet the intent of the OWA Class EA process as it relates to the documentation requirements.	2011 ER NOC withdrawn. Draft ER resubmitted 2013. Change in project scope has been clearly communicated to stakeholders and Aboriginal Communities. Location of the Powerhouse has been confirmed.	17
Class EA - Significant Concerns	02-Mar-12	I have been made aware of the outstanding concerns raised by the MOE's Northern Region, as well as other key government agencies (Transport Canada, the Canadian Environmental Assessment Agency, Fisheries and Oceans Canada, The Ministry of Tourism and Culture, MNR) during the planning process for this Project. The significant outstanding concerns raised by these agencies include: gaps in baseline data; incomplete assessment of effects and associated mitigation plans; concerns with the proposed ZOI; incomplete and inadequate public and Aboriginal consultation; concerns with cultural landscapes, impacts on aquatic habitat and species, and cumulative effects. The MOE staff have raised similar concerns to those of the key government agencies. Xeneca has not met the intent of the consultation provisions of the Class EA or the expectations of the MOE to consider and address comments provided by government agencies. It is advantageous for proponents to work closely with agencies and address their concerns during the Class EA planning process as this will help to facilitate proponents proceeding through subsequent permits and approval processes move efficiently.	Xeneca has held additional public meetings including an Oct 16, 2013 public meeting which provided project updates including the merger of the Third Fall and Chute Projects. As well stakeholders were presented with changes to the project design and operation, responses to previous stakeholder questions, and an overview of the water management planning process. In addition, the public has had several months to review a draft ER prior to the release of the final ER. This has provided stakeholders and Aboriginal Communities to understand the impacts and provide comments on the entire project. Consultation has now met or exceeded OWA Class EA requirements.	n/a
Agency Consultation	02-Mar-12	I understand that assessment of the transmission line is not required under the OWA Class EA; however, I recommend that Xeneca consider working with MNR to assess potential impacts and select a preferred route. I also recommend that the effects of the improvements to the existing multi-use road be undertaken by Xeneca to support any other decisions by MNR to dispose of Crown land.		17.5
Class EA - Significant Concerns	02-Mar-12	The planning process for the project overall lacks the level of transparency, clarity, and certainty expected from proponents under the OWA Class EA. The decision-making process employed by Xeneca in reaching its conclusion is neither transparent nor traceable, and therefore Xeneca did not meet the requirements of the OWA Class EA.		n/a
Stakeholder Consultation	02-Mar-12	In order to correct the above noted deficiencies, I am advising Xeneca to complete the following actions: 1 Consult with potentially affected or interested Aboriginal communities to gain information relating to traditional land and water use and potential impacts to Aboriginal or treaty rights, and incorporate this information into the Environmental Report. Document how any concerns raised with respect to the Project were considered and addressed.	Comments acknowledged. Substantial additional consultation has occurred. Traditional land and water use and potential impacts to Aboriginal treaty rights. Information has been incorporated into ER along with documentation of concerns with the project have been considered and addressed.	17

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Zone of Influence (ZOI)	02-Mar-12	Consult with MNR and MOE Northern Region on further studies needed to identify and confirm the ZOI. Conduct these further studies to confirm the ZOI.		3.4
Agency Consultation	02-Mar-12	Consult with appropriate key agencies to determine what further baseline data/studies and field work is required in order adequately assess the potential effects of the Project on the natural, social and economic environment. Assess any potential effects and document the work in the Environmental Report.	Consultation has occurred and Agency consensus reached on all key concerns.	17.5
Class EA - Preferred Option	02-Mar-12	Based on the assessment of effects, select and document in the Environmental Report the location of the powerhouse facility.		3
Class EA- Residual Effects	02-Mar-12	Once the assessment of effects is completed, include appropriate mitigation and impact management measures in the Environmental Report. Any individual net effects (after mitigation) and their significance and the overall positive, neutral and negative effects of the Project are to be included and documented.		11 and 12 plus Tables 31 and 28
Stakeholder Consultation	02-Mar-12	Revise the Environmental Report and I recommend that a draft be made available to the public and Aboriginal communities on Xeneca's website.	Draft ER provided to public May 2013	17
General - Information Request	02-Mar-12	Circulate copies of the draft Environmental Report to appropriate agencies (MNR, MTC, MOE Northern Region and other relevant government agencies) for a minimum 30-day review and comment period. I recommend that Xeneca revise the draft to address any additional agency comments and concerns.	Draft ER provided to appropriate agencies May 2013	n/a
Stakeholder Consultation	02-Mar-12	In accordance with the Class EA requirements, finalize the revised Environmental Report and issue a new Notice of Completion, making the Environmental Report available for a 30 day public, Aboriginal community and agency review period. The Notice should indicate that there is an opportunity to submit a Part II Order request to the Minister of Environment during the 30-day public review period. Xeneca is advised to ensure that Aboriginal communities who may have an interest in the Project, as well as all other parties who have previously expressed an interest in the Project and those who submitted a Part II Order request, received a copy of the Notice of Completion.	Xeneca has refiled Notice completion as per the requirements of the OWA Class EA	17
General - Information Request	02-Mar-12	Provide a copy of the Environmental Report and the Notice of Completion to this Branch and MOE's Northern Region office when the Notice of Completion is issued.	Copy of ER and NOC provided to MOE Northern Region	n/a
Stakeholder Consultation - Part II Order	02-Mar-12	If Xeneca decides to proceed with the Project and completes the above steps, MOE staff will review the Part II Order requests received between August 12 and September 9, 2011, in addition to any other requests received after the re-issuance of the Notice of Completion once Xeneca has completed these steps. I encourage Xeneca to continue to work with the requesters and attempt to resolve the concerns raised in their Part II Order requests.	NOC of 2011 withdrawn	2.2
Class EA - Hydraulic Modelling	16-Aug-12	For Third Falls in CR, there is a need of additional bathymetry for that area, but no calibration is required.	If necessary, we will do so and collect data.	Appendix F

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Aquatic Ecosystem - Fish Habitat	16-Aug-12	Understanding that bios are interested in impacts in CR, don't see why it would be an issue to collect additional bathymetry. Just need the transects for impact assessment, not calibration.	Can we design follow up study work that will address the MNR questions while not hindering the EA process? Could this be done as a mitigation plan in the EA? Can we use adaptive management by including an operation restriction table for Brook Trout until we know if they spawn or not spawn in the main stem river downstream of Third Falls. Action: Dave Green to follow up with MNR on data adequacy questions regarding Biology/Brook Trout Work.	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Fish Habitat	16-Aug-12	Say you are proposing a minimum flow, you would need observed bathymetry to understand conditions under each flow. You only have assumed cross-sections for that stretch of river. To resolve issue, collect a few transects at desired locations and rerun model.	Asked where these transects might be most useful.	9.4.1, 11.4.1 and 12.4.1
Aquatic Ecosystem - Fish Habitat	16-Aug-12	Action item that you may have to collect additional bathymetry. But do not require further calibration if using similar parameters from first 40 km.	Could also use that bathymetry work to confirm conclusions made from impact assessment to date. Action: Dave Green to follow up with MNR on data adequacy questions regarding Biology/Brook Trout Work.	9.4.1, 11.4.1 and 12.4.1
Class EA Process	16-Aug-12	if something is going to be important, it still needs to be addressed or proposed in the EA. Even if technically it will be addressed during Post EA.	Class EA comes much earlier than Plan and Specs. Believed that this was an issue to be handled via operations mitigation of flows and levels, not by structure, and that it could be handled at the operation stage.	2
Class EA Process	01-Mar-13	MOE is concerned about an adaptive management approach for EA. Areas of impact and effects need to be identified.	Subsequent to the March 1, 2013 meeting between Xeneca, MNR, MOE and DFO, Xeneca has committed to running Third Falls GS under a run-of-river regime. However, Xeneca reserves the right to conduct further studies, and, if it is shown impacts to ecological integrity in the downstream conservation reserve are not substantial, application may be made to ease operating restrictions.	2
Aquatic Ecosystem - Erosion and Sedimentation	01-Mar-13	In clay belt areas such as Third Fall, wetting and drying of riverbanks can cause erosion as well as changes in Co2 loading in peat areas.	ACTION: SD to take to MNR Policy Division the Xeneca operations report June 23, 2012 as well as: - October CPL reports - Dave Green's effects report - Geomorphology report - Comments from Chapleau District	11.4.1.1

Ministry of the Environment (MOE)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Supporting Facilities	01-Mar-13	Roads environmental and archeological field assessment needs to be in the EA.	<p>Xeneca is under enormous time line pressures and wants to work with MOE to break roads out of EA and do them under an alternative process.</p> <p>Xeneca's desire is to get through EA because it is expected opponents to waterpower projects will file elevation requests that are time consuming. Roads are not expected to be a major issue for the public.</p> <p>Xeneca intends to do road work at the same time as power line work is done in MNR's Stewardship EA.</p> <p>ACTION: Xeneca to review Mining Rights withdrawal required on all areas of inundation and downstream zone of influence as well as power lines and roads and provide request for further withdrawal to Chapleau MNR f required.</p>	4 and 5
Class EA Process	01-Mar-13	Xeneca to be careful not to scope too narrowly on roads and lines. There is need to address all of comments issued by MOE and MNR when issuing the new ER.	<p>Xeneca acted on agency suggestions by identify and surveying a broad corridor for both proposed roads and transmission lines, as well as other construction sites. Depending on the values being assessed, corridor widths of 100m to 1000m were used during desktop or field surveys. Detailed habitat mapping was completed for a 300 m buffer on either side of the line and used for the planning and reporting of all field assessment of line and road corridors. See the Environmental Lines and Roads report in Annex III.</p>	2

Fisheries and Oceans Canada (DFO)				Report Reference
Theme	Date	Comment	Response	Section
Project Permitting	19-Apr-11	The impacts to fisheries and fish habitat around the project sites and at any proposed water crossings are DFO's concerns and responsibilities regarding the two projects.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Aquatic Ecosystem - Fish Habitat	19-Jul-11	No authorization should be issued unless acceptable measures for any habitat loss are developed and implemented by the proponent.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4.1, 11.4.1 and 12.4.1
Federal EA	12-Aug-11	<p>I have been reviewing the DRAFT Environmental Report Ivanhoe River - The Chute Hydroelectric Generating Station Project and have the following comment which will be followed up with by a written response with more detail.</p> <p>Based on what I have reviewed so far, this document is not Canadian Environmental Assessment Act (CEAA) compliant and in order for it to be accepted as an environmental assessment under CEAA additional work and details will have to be provided. A scoping document was sent to Tami Sugarman (OEL Hydrosys) and Patrick Gillette (Xeneca) on July 21, 2011 outlining information requirements for an EA under CEAA that will need to be addressed and I am looking forward to receiving the revised document addressing these requirements.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	7.3
Stakeholder Consultation	31-Aug-11	<p>Executive Summary, Government Agency Engagement Process: Department of Fisheries and Oceans: <i>As noted above, DFO works in a complementary relationship with the MNR. After the DFO Letter of Advice is issued to MNR, the MNR may choose to issue Location Approval.</i></p> <p>Please note that DFO does not issue a Letter of Advice to MNR. If appropriate a letter of advice is issued to the proponent and copied to the MNR if they have an interest in the project.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	17
Class EA - Mitigation Measures	31-Aug-11	<p>Executive Summary <i>The identification of effects and mitigation plans has been developed in close liaison with environmental regulatory agencies at the Federal and Provincial level.</i></p> <p>As of August 18, 2011, there has been no mitigation plans submitted for review by Fisheries and Oceans Canada.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	11 and 12
Class EA - Cumulative Effects	31-Aug-11	<p>Executive Summary <i>Cumulative Effects</i> <i>The proponent may propose an additional generation station on the Ivanhoe River at Third Falls. If this proposed project proceeds, the cumulative effects of both projects will be considered in the environmental report.</i></p> <p>As the approvals process has begun for the proposed Third Falls Hydroelectric Generating Station, the cumulative effects assessment will have to take into consideration effects from the Third Falls and the The Chute developments for this environmental assessment.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	13

Fisheries and Oceans Canada (DFO)				Report Reference
Theme	Date	Comment	Response	Section
Aquatic Ecosystem - Fish Habitat	31-Aug-11	<p><i>Executive Summary</i></p> <p>Conclusion</p> <p>There maybe a requirement for an Authorization under Section 35 of the Fisheries Act for the harmful alteration, disruption or destruction (HADD) of fish habitat. If appropriate, a compensation measures plan will be developed in consultation with the regulators.</p> <p>A fish habitat compensation plan is required prior to issuing an authorization under the <i>Fisheries Act</i> which must be reviewed during the environmental assessment process under the <i>Canadian Environmental Assessment Act</i>.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4.1, 11.4.1 and 12.4.1
Class EA - Existing Conditions	31-Aug-11	<p>2.9.2 Aquatic Habitat and Species</p> <p><i>In the 2010 field surveys, the study area was bounded to the aquatic habitats of the proposed inundation area (approximately 2.8km upstream) and 400m downstream of the The Chute.</i></p> <p>The zone of influence is significantly larger than what is described above. The proposed inundation area has expanded to approximately 6.4km and taking into consideration on the facility will be operated as a run of river with modified peaking, the downstream zone of influence will extend to the confluence of the Ivanhoe River and the Groundhog River.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Existing Conditions	31-Aug-11	<p>2.9.2 Aquatic Habitat and Species</p> <p>The information in this section is incomplete with additional studies being undertaken in 2011. The information should provide a more robust assessment. But Fisheries and Oceans Canada did not review the proposed field sampling plans for the 2011 season, so additional information gaps may exist.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Category	31-Aug-11	<p>3. Description of Proposed Project</p> <p>3.6.1 Site Operating Strategy, Page 37.</p> <p><i>It is proposed that The Chute will operate a "modified run-of-river" generating facility.</i></p> <p>Please see note above as the proper term for the facility is run-of-river with modified peaking.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	1.3
Design - Operation Plan	31-Aug-11	<p>3.6.1 Site Operating Strategy, Page 40.</p> <p>Typically, modified run-of-river projects have significantly less environmental impact than peaking hydroelectric projects. The proposed Chute GS will be operated as a modified run-of-river facility.</p> <p>As this facility will be operated as a run-of-river with modified peaking, how will this facility have less impact than a peaking hydroelectric project?</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6 plus Appendix D

Fisheries and Oceans Canada (DFO)				Report Reference
Theme	Date	Comment	Response	Section
Design - Project Description	31-Aug-11	<p>4. Federal, Provincial and Municipal Agency and Stakeholder Consultation 4.3.1 Federal Fisheries and Oceans Canada <i>Future consultation with DFO will be required as the project moves forward in the development process. The final detailed engineering drawings and other supporting information will be submitted to DFO for a determination under the Fisheries Act.</i></p> <p>Detailed engineering drawings and supporting documentation are required now in order for us to make a determination under the Fisheries Act and complete the environmental assessment process under the CEAA.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	4, 5 and 6
Class EA - Environmental Effects	31-Aug-11	<p>5. Evaluation of Potential Environmental Effects Table 4: Identified Issues and Management Strategies Environmental Component: Fish habitat. There is too much missing information in this table to determine if there is a potential for a project component to have a significant negative effect.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Aquatic Ecosystem - Surface Water Levels, Flows and Movement	31-Aug-11	Environmental Component: Water levels, flows and movement (surface water). The residual effect is unknown due to outstanding data and information.	This version of the Draft ER was withdrawn; the comment no longer applies.	11.4.1, 12.4.1 plus 9.2, 11.2 and 12.2
Aquatic Ecosystem - Water Temperature	31-Aug-11	Environmental Component: Changes to overall thermal regime of waterway. It is anticipated that there will be no residual effect, but what justification is used to make this assumption? Downstream of the facility reduced flows should be evident for many kilometers and will act cumulatively with the proposed Third Falls facility, thus downstream thermal regimes may have the potential to be alternated.	This version of the Draft ER was withdrawn; the comment no longer applies.	11.2.4 and 12.2.4
Class EA - Baseline Survey	31-Aug-11	<p>5.1.1 Inundation, Page 93 <i>Assessment will be completed through the 2011 field season and prior to permitting and construction.</i></p> <p>The proposed work plan was not provided to DFO for review to ensure that there were no information gaps for the 2011 field season. Therefore, additional information may be requested once we have had a chance to review the assessments.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9
Class EA - Cumulative Effects	31-Aug-11	<p>7 Cumulative Effects <i>The assessment of cumulative effects outlined below is based on precautionary approach and the professional judgement of the EA team. As additional information about The Chute and other projects and activities in the area become available, the characterization and assessment of cumulative effects will be further discussed through the impact assessment, detailed design, and permitting stage of the project.</i></p> <p>A thorough cumulative effect assessment has to be completed prior to completing the environmental assessment pursuant to the CEAA. DFO can not issue any authorizations until this is complete.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	13

Fisheries and Oceans Canada (DFO)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Cumulative Effects	31-Aug-11	<p>Alteration and/or destruction of fish habitat</p> <p><i>It is unknown at this time what the specific impacts of the creation of the Third Falls facility downstream of the The Chute will be, however, there exists the potential for cumulative impacts to fish and fish habitat between the two projects on the Ivanhoe River.</i></p> <p>As both facilities will be operated as modified peaking plants, the likelihood of cumulative effects to occur is high. Effects associated with the operation of the plants will have to be assessed separately and compared to determine if there will be cumulative effects as a result of the proposed operating regime.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	13
Class EA - Environmental Effects	31-Aug-11	<p>11. Conclusions, Page 120</p> <p><i>Throughout this document, management strategies have been developed and applied to known impacts in order to avoid, prevent or minimize any identified adverse environmental effects of the project. It is the conclusion of this environmental assessment that the planned undertaking will result in residual adverse effects. An analysis of the identified residual adverse environmental effects was undertaken to determine their significance, and commitments for any required additional measures for the further management of these potential residual effects have been made.</i></p> <p><i>The majority of the identified adverse effects were determined to be "not significant" meaning that they are not likely to cause unacceptable harm to environmental quality, productive capacity of the effected environment, or the socio-economic and cultural attributes of the area.</i></p> <p>Throughout this document, there are a lot of unknowns that will require further study thus, the conclusion that there adverse effects are "not significant" is unjustified.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Aquatic Ecosystem - Fish Habitat	31-Aug-11	<p><i>The proposed compensation for these anticipated impacts must be developed and discussed with Fisheries and Oceans Canada once the engineering details for the project have been advanced during the permitting phase of the project. It is expected that the replacement of spawning habitats that will be lost or altered as a result of The Chute development will be required.</i></p> <p>As previously stated, the fish habitat compensation plan is required in order to complete the environmental assessment under the CEAA for this project. This must be completed before the regulatory phase can begin.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.4.1, 11.4.1 and 12.4.1

Fisheries and Oceans Canada (DFO)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Zone of Influence (ZOI)	31-Aug-11	<p>Annex III Natural Environmental Characterization and Impact Assessment Report <i>Field work conducted by NRSI in 2010 and the spring of 2011 was bounded within the 2010 identified study are limits and included aquatic habitats with the reach from the proposed Chute GS location to 400m downstream, the identified area of inundation (bases on 2011 hydrological information), and the lands adjacent to the inundation (laterally) with approximately 120m.</i></p> <p>The zone of influence has not been properly established and additional work is required as this facility and the proposed Third Falls Hydroelectric Generating Station are going to be operated as modified peaking plants. The downstream reaches will need to be assessed to determine what potential effects on fish and fish habitat are likely to occur as a result of reducing flows in the channel for up to 48 hours.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	3.4
Aquatic Ecosystem - Erosion and Sedimentation	16-Aug-12	DFO concerned on the habitat maps. Do not know what habitats are being used, what will be impacted, lost or for compensation.	The habitat impacts has been assessed quantitatively and an Conceptual Fish Habitat Offsetting and Monitoring Plan is included in Annex III of the ER.	11.4.1.1

Canadian Environmental Assessment Agency (CEAA)				Report Reference
Theme	Date	Comment	Response	Section
Federal EA	23-Aug-11	<p>In accordance with subsection 15(1) of CEAA the scope of project for The Chutes Hydroelectric Generating Station has been identified as the physical works or activities associated with the construction, operation and maintenance of the proposed hydroelectric generating facility as well as the decommissioning or abandonment (where applicable) of certain components of the development proposal. The RA(s) have determined that the scope of project will include the following components:</p> <ul style="list-style-type: none"> • The construction, operation and maintenance of a new generating station and dam at The Chutes on the Ivanhoe River. • The construction, operation and maintenance of a new tailrace and its associated works or undertakings at The Chutes sites. • The construction of new transmission lines and associated structures. • The construction or alteration of portage routes either temporary during construction or permanent. • The construction of new access roads and upgrades to existing access roads. • Any other works or undertakings directly associated with the hydroelectric project including those that are temporary. <p>The screening report must provide a complete description of all proposed project components, associated physical works and activities with an approximate schedule (timing, frequency, duration). The report must also clearly state who is responsible for the ownership, construction and operation of each work or activity. The level of detail provided in the project description should be appropriate to the scale and complexity of the project and to the sensitivity of its location. Reference maps and/or site plans should be attached to indicate the project location and/or its key features.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	7.3

Canadian Environmental Assessment Agency (CEAA)				Report Reference
Theme	Date	Comment	Response	Section
Federal EA	23-Aug-11	<p>CEAA defines “environment” as the components of the Earth, including:</p> <ul style="list-style-type: none"> a) land, water and air, including all layers of the atmosphere; b) all organic and inorganic matter and living organisms; and c) the interacting natural systems that include components referred to in paragraphs (a) and (b). <p>In respect of a project pursuant to CEAA "environmental effect" means:</p> <ul style="list-style-type: none"> a) any change that the project may cause in the environment, including any change it may cause to a listed wildlife species, its critical habitat or the residences of individuals of that species, as those terms are defined in subsection 2(1) of the Species at Risk Act, b) any effect of any such change referred to in paragraph (a) on <ul style="list-style-type: none"> i. health and socio-economic conditions, ii. physical and cultural heritage, iii. the current use of lands and resources for traditional purposes by aboriginal persons, or iv. any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, or c) any change to the project that may be caused by the environment. 	This version of the Draft ER was withdrawn; the comment no longer applies.	7.3
Federal Screening	23-Aug-11	The screening report should identify any accidents and malfunctions that may occur in connection with the project. This should include the assessment of potential environmental effects associated with accidental spills (e.g. fuel, oils, hydraulic fluids, etc.), debris clogging or icing up of flow control gates or outlet structures, dam failure, etc., as well as other accidents and malfunctions that could be expected to occur such as power failures and pump failures. Emphasis should be placed on accidents and malfunctions that are reasonably plausible. The effects of accidents and malfunctions on each environmental component should be considered as well as the contribution to cumulative effects.	This version of the Draft ER was withdrawn; the comment no longer applies.	7.3
Cumulative Effects	23-Aug-11	In undertaking the environmental assessment for The Chutes hydroelectric project the net environmental effects associated with the project will be considered in combination with the environmental effects of other past, present or future projects or activities to determine the potential for cumulative environmental effects. Projects that “will likely be carried out” are defined as those projects for which an environmental assessment has been undertaken and where approval has already been provided. Cumulative environmental effects considered must be related to a direct environmental effect of the project but the direct effect need not be significant on its own.	This version of the Draft ER was withdrawn; the comment no longer applies.	13

Canadian Environmental Assessment Agency (CEAA)				Report Reference
Theme	Date	Comment	Response	Section
Screening - Environmental Effects	23-Aug-11	<p>The screening should assess the environmental effects of geological, climatic and other natural phenomena on the project including effects associated with:</p> <ul style="list-style-type: none"> - extreme drought, flooding or rainfall including that associated with climate change and any associated geophysical effects (e.g. increase erosion potential, changes to bank stability in reservoir areas, abnormally elevated/depressed groundwater levels, etc.); and - other extreme events (e.g. ice storms, river ice formation and jamming, forest fires, tornados or earthquakes, etc.). <p>The proponent must demonstrate that the project design is sufficiently robust to accommodate any expected changes in extreme flows, precipitation and temperature without potential failure. Emphasis should be on environmental conditions that are reasonably plausible, but should not be limited to events that occur on a regular basis.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Screening - Mitigation Measures	23-Aug-11	<p>For each potential adverse environmental effect, including cumulative effects, technically and economically feasible mitigation measures must be identified. The screening report should identify any residual effects that will persist after the implementation of mitigation measures and those effects must be carried forward to the cumulative environmental effects assessment (CEEA). Any measurable net (residual) likely adverse environmental effect that potentially affects a valued ecosystem component or valued socio-economic component must be carried forward to the CEEA.. The screening report should also identify compensation measures to offset the loss of fish habitat and its monitoring program. Where mitigation cannot be fully described until the detail design stage the principles and criteria upon which such mitigation will be developed should be provided. The screening report must clearly state who is responsible for implementing each mitigation measure proposed.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Federal EA	23-Aug-11	<p>CEAA requires that RAs determine whether the project is likely to cause significant adverse environmental effects, including cumulative effects. In other words, only environmental effects that are both likely and adverse must be considered in determining significance. The conclusions that are reached in this regard must be systematically documented.</p> <p>While the final determination of significance rests with RAs the information provided by the proponent in the screening report will be used to help make this decision. Conclusions on significance must be clearly supported by and traceable from the description of the existing environment, the description of project activities, the potential interactions (environmental effects) and the predicted effectiveness of the mitigation measures to be applied.</p> <p>The prediction of significance should be based on such factors as: magnitude, geographic extent, duration, permanence/reversibility and ecological context. Applicable federal or provincial guidelines should be referenced when drawing conclusions about the significance of impacts.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	7.3

Canadian Environmental Assessment Agency (CEAA)				Report Reference
Theme	Date	Comment	Response	Section
Screening - Monitoring Plan	23-Aug-11	<p>Pursuant to section 38(1) of CEEA consideration must be given to the need for a follow-up program. The purpose of a follow-up program is to confirm predictions made during the assessment and to ensure the effectiveness of mitigation measures considered. The RAs will not be in a position to consider the need for a follow-up program until it has examined the proponent's draft screening report. In the event that an adaptive management approach is proposed as a component of mitigation to address unresolved concerns the need for implementing a follow up program should also be identified by the proponent in consultation with the RAs. Nevertheless the requirement for a follow-up program will be determined as the screening proceeds.</p> <p>Regardless of the requirement to complete a follow-up program pursuant to section 38(1) of CEEA, the screening should address the need for a monitoring program to ensure compliance with identified mitigation measures. In order to ensure effective implementation of the mitigation measures identified in the screening report plans and procedures proposed for quality control and assurance should be described including technical specifications for mitigation works, inspection activities during construction and operation, resolving issues and addressing unforeseen effects that may arise during construction or operation. These plans and procedures should also include, but not be limited to environmental protection plans, emergency/contingency plans, construction environmental specifications, construction special provisions, operational maintenance plans, etc..</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	16
Screening - Surface Geology and Soils	23-Aug-11	<p>The screening report should describe surface geology and soils in the study area, and should identify any impacts the project may have on the following factors:</p> <ul style="list-style-type: none"> - soil and rock types and quality including contaminated sites - spills and potential for acid rock drainage (ARD) and metal leaching (ML) - terrain and topography (e.g. excavation and fill requirements excess/waste rock/soil transportation and disposal, proposed temporary and permanent disposal sites, site restoration, etc.) - soil quality including contaminated sites and spills - hazard lands or unstable lands - sedimentation, soil erosion, shoreline or riverbank erosion - hazard lands or unstable lands subject to erosion <p>If and where the project will involve the confinement, removal or remediation of contaminated soils or sediments information on the containment, disposal or treatment method including the potential environmental effects associated with the method should be provided.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12

Canadian Environmental Assessment Agency (CEAA)				Report Reference
Theme	Date	Comment	Response	Section
Screening - Surface Water	23-Aug-11	<p>The screening report should identify the name, location and characteristics of any water bodies in the project area and should describe the potential impact of the project on these watercourses including impacts associated with:</p> <ul style="list-style-type: none"> - potable water uses - recreational water uses - head pond creation and subsequent flooding of both river and lake environments - predicted changes to normal/extreme water levels, flows and movement - predicted changes to the normal/extreme thermal/ice regime - installation, modification or removal of watercourse crossing structures - accidental spills, erosion and sedimentation, concreting works and repairs , etc., locally generated contaminants entering water bodies (for example fugitive dust, engine emissions, smoke, ash) and under certain circumstances: - siting and management of temporary and permanent waste rock/soil disposal areas for management of excess materials from excavations; - acid rock drainage (ARD) from exposed and/or excavated bedrock (identified as having a net acid generating potential) including specific management/disposal options of any materials having a potential for ARD; - methyl mercury generated in created head pond reservoirs . <p>The analysis should describe potential effects on the water quality and quantity of receiving water bodies during both the construction and operation phases. The screening report should also indicate whether any of these watercourses are navigable and whether approval under the Navigable Waters Protection Act is required. A dam operating strategy and a water management plan should be attached to the screening report.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Screening - Ground Water	23-Aug-11	<p>The screening report should provide a description of groundwater resources in the study area (including the depth of the water table) and should indicate whether the groundwater is a source of potable water. The report should identify potential impacts of the project during construction and operation phases on groundwater quality and quantity including impacts associated with:</p> <ul style="list-style-type: none"> - potable water uses - accidental spills and other project effluents - acid rock drainage and methyl mercury formation - changes to normal/extreme groundwater levels, flux and movement - changes to normal infiltration/recharge and seepage/upwelling zones 	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12

Canadian Environmental Assessment Agency (CEAA)				Report Reference
Theme	Date	Comment	Response	Section
Federal Screening	23-Aug-11	<p>The screening report should provide a description of air quality in the vicinity of the project and should indicate the potential impact of the project on air quality. The discussion of potential effects should address the local and regional impacts associated with the construction and operation phases such as:</p> <ul style="list-style-type: none"> - emissions of toxic substances including engine exhaust emissions - dust and smoke emissions - greenhouse gas emissions - contributions to formation of local and regional smog, fog, thermal effects, icing and micro climate <p>The assessment of air quality effects should consider potential adverse impacts on sensitive local receptors as well as the expected overall benefits through carbon abatement. Where positive impacts are expected the report should provide a sound rationale to support the conclusions including quantitative data to the extent possible.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	7.3
Screening - Fish Habitat	23-Aug-11	<p>In conjunction with the section on surface water the screening report should indicate the presence of fish and fish habitat in the study area and should identify any impacts the project may have including impacts associated with:</p> <ul style="list-style-type: none"> - aquatic species at risk listed under the federal Species at Risk Act (SARA) - changes in surface water, groundwater and surface geology and soils that could result in effects to fish and/or fish habitat - barriers to fish migration - fish injury or mortality associated with blasting, impingement, entrainment, etc. <p>When drawing conclusion about the significance of impacts, consideration should be given to DFO's Policy for the Management of Fish Habitat (1986).</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12

Canadian Environmental Assessment Agency (CEAA)				Report Reference
Theme	Date	Comment	Response	Section
Screening - Vegetation and Wetlands	23-Aug-11	<p>The screening report should provide a description of vegetation communities and wetlands in the study area including any designations of importance (e.g. Environmentally Significant Areas, Areas of Natural and Scientific Interest, Provincial or locally significant wetlands, etc.). The screening report should identify any impacts the project may have on vegetation and wetlands during construction and operation phases including impacts associated with:</p> <ul style="list-style-type: none"> - removal of vegetation - infilling, flooding, or de-watering of vegetation/wetland communities - noxious weed and vegetation control (e.g. chemical spray, mechanical) - changes to wetland ecosystem and function including changes to hydrology and hydrogeology due to head pond creation and modifications to surface drainage patterns - effects on soils, terrestrial wetlands and wetlands due to disposal of waste rock/soils (and viability of site rehabilitation) including any effects of acid rock drainage - plant species at risk listed under SARA <p>The ecological functions of any vegetation and wetland communities and wetland hydrology potentially impacted by the project should be described and potential impacts on those functions should be noted. The screening report should indicate whether the project is located within an area where wetland loss has reached critical levels.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Screening - Terrestrial Wildlife	23-Aug-11	<p>In conjunction with the section on vegetation and wetlands the screening report should provide a description of wildlife species and their habitat that are present in the study area at any time during their life cycle including species that may only use the study area on a seasonal basis. In particular, the proponent should consider potential impacts of the project on migratory birds. The screening report should identify any impacts the project may have on wildlife communities or their habitats during construction and operation phases including:</p> <ul style="list-style-type: none"> - species diversity, abundance and movement - terrestrial Species at Risk listed under SARA (including those species observed in the zone of influence of the project and those species with habitats ranging into the project area) - wildlife habitat abundance, availability, diversity and function (e.g. corridors, breeding, staging and foraging areas) including seasonal uses and specialized habitats used by Species at Risk 	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12

Canadian Environmental Assessment Agency (CEAA)				Report Reference
Theme	Date	Comment	Response	Section
Federal Requirements	23-Aug-11	<p>In conjunction with the sections on vegetation, wildlife and fish the screening report should indicate any federally and/or provincially listed Species at Risk that are known to or may be expected to use the site or adjacent lands due to the presence of suitable habitat. This includes those species listed under the Species at Risk Act (SARA). At a minimum the Natural Heritage Information Centre database maintained by the Ontario Ministry of Natural Resources in Peterborough should be consulted for known occurrences of species at risk. Environment Canada - Canadian Wildlife Service should also be consulted to determine if occurrences or ranges of any endangered, threatened and special concern species overlap with the project's zone of influence.</p> <p>If there is potential for species at risk to occur at a project site (i.e. previous known occurrence, species range overlap and/or known habitat preference exists) a qualified biologist should conduct a thorough biological inventory of all areas of natural habitat that may be affected by the project and have the potential to support species at risk. The screening report should indicate whether the project activities may have an adverse effect on any species at risk and also include a substantiated professional opinion on the likelihood of the occurrence of such effects. A strategy should be developed to protect any identified species at risk with a primary focus on avoidance.</p> <p>When a federal EA is carried out on a project that may affect a listed species or its critical habitat, SARA requires that adverse environmental effects be identified, mitigation measures be taken to avoid or lessen adverse effects and environmental effects monitoring be conducted.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	7.3
Screening - Social and Economic	23-Aug-11	<p>The screening report should identify and address any effects of any change that the project may cause in the environment on:</p> <ul style="list-style-type: none"> - Health and socio-economic conditions – including impacts to navigation, noise and vibrations, drinking water quality and quantity, country foods (including those harvested by hunting, trapping, fishing, gathering or small-scale farming), air quality, recreation, cottage use and other tourism, game and fishery resources, electric and magnetic fields emitted by transmission lines, property flooding/flood risk to residential structures - physical and cultural heritage - the current use of lands and resources for traditional purposes by Aboriginal persons including traditional food, water (potable and recreational) and medicines - any structure site or thing that is of historical, archaeological, paleontological or architectural significance 	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12

Transport Canada (TC)				Report Reference
Theme	Date	Comment	Response	Section
Project Permitting	19-Apr-11	<p>Outlined that, based on a review of the project description, approvals under the NWPA will be required and that they are working on a comprehensive list of informational requirements which would need to be addressed prior to the agency signing off on the EA.</p> <p>Confirmed that TC and DFO are the Responsible Authorities for these projects as designated by CEAA.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	7
Federal EA	12-Sep-11	<p>Federal, Provincial, and Municipal Agency and Stakeholder Consultation</p> <p>This section should provide an explanation of the federal EA process and the roles or purposes of the federal agencies involved under CEAA.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	7.3
Cumulative Effects	12-Sep-11	<p>Cumulative Effects</p> <p>It is TC's understanding that the Third Falls project has already been proposed and therefore to meet CEAA requirements, the cumulative effects of both projects need to be considered in both sets of environmental screening reports.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	13
Environmental Effects	12-Sep-11	<p>Conclusion</p> <p>For CEAA purposes, positive environmental impacts cannot off-set significant adverse environmental impacts, particularly when the effects are not directly related to each other.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Federal EA	12-Sep-11	Please address in the Foreword whether or not this report has been prepared as a screening-level assessment under CEAA.	This version of the Draft ER was withdrawn; the comment no longer applies.	7.3
Environmental Effects	12-Sep-11	<p><i>1.3 Overview of the Environmental Screening Process</i></p> <p><i>"Environmental effects may also include the displacement...."</i></p> <p>Please footnote the CEAA definition of environmental effect, which differs from the provincial definition.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Federal Screening	12-Sep-11	<p><i>1.41 Legal Framework</i></p> <p><i>It therefore became an objective to harmonize the multi-jurisdictional regulatory requirements and present the results of the environmental assessment of the proposed undertaking in a single comprehensive document.</i></p> <p>In order to produce a single coordinated document that meets requirements of CEAA, substantial revisions are required to this report. As written, the report fails to adequately address the factors required under subsection 16(1) of CEAA and therefore cannot be considered to be a screening report required pursuant to paragraph 14(a) of CEAA.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	7.3
Existing Conditions	12-Sep-11	<p><i>2. Existing Conditions</i></p> <p><i>General Comment</i></p> <p>In section 9, SARA status of species should be noted in addition to provincial status.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9

Transport Canada (TC)				Report Reference
Theme	Date	Comment	Response	Section
Environmental Effects	12-Sep-11	<p>2.9.3 Valued Ecosystem Components <i>Additional work is required to determine the significance of the study area for Large Weasel Denning, and as a result it remains as a candidate significant habitat for the project.</i></p> <p>This potential effect has not been carried through to Tables 4/5/6.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Aboriginal Community	12-Sep-11	<p>2.11 .9 Aboriginal Land and Water Use <i>To date no consultation with individual Aboriginal community members to gather information specific to lands and water use has been undertaken.</i></p> <p>Per the definition of “environmental effect” in subsection 2(1) of CEAA, as well as requirements of subsection 16(1) of CEAA and the document “The Chute Hydroelectric Generating Station Scope of Project and Scope of Assessment”, the potential effects of the project on the current use of lands and resources for traditional purposes by Aboriginal persons is one of the factors that must be considered in a CEAA compliant screening report, along with the significance of these effects and the proposed mitigation measures.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.9, 11.9 and 12.9
LRU - Access	12-Sep-11	<p>3.4.3 Access Roads Any water crossings of the access road must be included in the NWPA application for approval, potentially including upgrades to existing crossings if they have not been previously approved.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.2, 11.6.2 and 12.6.2 plus 9.7.4, 11.7.4 and 12.7.4
Project Permitting	12-Sep-11	<p>3.5.9 Water Crossings Water crossings of the connection line may not require NWPA approval. Consult the Minor Works and Waters Order at http://canadagazette.gc.ca/rp-pr/p1/2009/2009-05-09/html/notice-avis-eng.html#d103 to determine if the connection line qualifies.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	7
LRU - Recreational	12-Sep-11	Are any portage routes proposed?	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.10, 11.6.10 and 12.6.10
Aboriginal Community	12-Sep-11	<p>4.2.4 Meetings The summary of outcomes of meetings held with Aboriginal communities should be included in the main document.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.9, 11.9 and 12.9
LRU - Water Management Plan	12-Sep-11	<p>4.3.2 Provincial Page 55 “MNR cautioned the proponent about proceeding with the EA planning as site release approval had not yet been provided for the project...The proponent must ultimately demonstrate that water management planning was incorporated into all notification and display material either through the EA or through a separate water management plan amendment process.</p> <p>Was water management planning incorporated into all notification and display material?</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.8, 11.6.8 and 12.6.8

Transport Canada (TC)				Report Reference
Theme	Date	Comment	Response	Section
Stakeholder Consultation	12-Sep-11	<p>Page 57 "Detailed comments for the NOC were provided along with a request for a copy of the final NOC and confirmation of advertising for the Notice".</p> <p>Were these comments incorporated/addressed in the NOC?</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	17
Stakeholder Consultation	12-Sep-11	<p>Page 60 "LSB members identified that the community's drinking water and sewage treatment is managed by the Ontario Clean Water Agency (OCWA) and that OCWA should be included in the planning process.</p> <p>Has Xeneca included the OCWA in the planning process for this project?</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	17
Stakeholder Consultation	12-Sep-11	<p>Page 62 – 66 List of issues raised at the PIC and other public concerns It is not clear how issues raised by the public have been considered and addressed. Please include a comment-response table that identifies comments, and how they have been considered and addressed, along with a reference to a specific location in the report. This table should include not only those comments raised during report preparation, but also expanded to include comments submitted by the public since release of the EA report.</p> <p>In addition to a public comment-response table, similar additional tables should be prepared for a) agency/stakeholder comments, and b) First Nation/aboriginal community comments.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	17
Aboriginal Community	12-Sep-11	<p>Page 70 "It was stated that the Aboriginal community engagement plan will formally begin after the issuance of the Notice of Competition"</p> <p>Since the Notice of Completion has been issued, has the Aboriginal community engagement plan begun?</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.9, 11.9 and 12.9
Class EA - Environmental Effects	12-Sep-11	<p>5. Evaluation of Potential Project Effects Introduction Since this report is being prepared to meet federal requirements under CEAA, the federal definition of environmental effect should be provided as per subsection 2(1).</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Class EA - Environmental Effects	12-Sep-11	<p>Table 4 - For CEAA purposes, Column two should reflect Potential Environmental Effects rather than "Issue".</p> <p>- In many cases, the environmental effects are not described (e.g. just noted as an "effect", or a component of the project). All environmental effects should be adequately described.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12

Transport Canada (TC)				Report Reference
Theme	Date	Comment	Response	Section
Class EA - Environmental Effects	12-Sep-11	Table 4 - There are numerous potential issues which have mitigation still to be determined, and/or where the residual effects are unknown due to outstanding data and information (and therefore cannot be carried through to Tables 5 and 6). Sufficiently complete baseline studies upon which environmental effects can be predicted, analyzed and mitigated. These gaps need to be addressed for federal EA purposes, in order to ensure consideration of all factors listed in subsection 16(1) of CEAA, and to allow Transport Canada make significance determinations pursuant to section 20 of CEAA.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Design - Alternative Options	12-Sep-11	Table 4 - If multiple options are still be considered for project components moving forward, all options should be fully assessed within the EA.	This version of the Draft ER was withdrawn; the comment no longer applies.	6.3 and 18.1
LRU - Navigation	12-Sep-11	<i>5.1.6 Navigation</i> <i>"Access to the Ivanhoe River is via boat launch immediately downstream of the project site".</i> How will the boat launch be affected by the project?	This version of the Draft ER was withdrawn; the comment no longer applies.	9.6.7, 11.6.7 and 12.6.7
Residual Effects	12-Sep-11	Table 5 Residual Environmental Effects and Significance Significant Residual Environmental Effects: Fish Habitat (Walleye and White sucker spawning habitat) Fish Habitat (Removal of existing rapids identified as spawning habitat) Fish Habitat (limit upstream fish movement) Unable to Determine Significance Fish Habitat (Northern Pike and habitat) Fish Habitat (Brook trout and habitat) As listed above, Table 5 identifies a number of significant residual environmental effects. If further mitigation is not developed to reduce these effects to a point where they are considered to be not likely significant, Transport Canada will be unable to take a course of action decision under paragraph 20(1)(a) of CEAA which would allow the department to proceed with regulatory approvals. Instead, a course of action under paragraph 20(1)(b) or 20(1)(c) would apply.	This version of the Draft ER was withdrawn; the comment no longer applies.	11 and 12
Class EA - Environmental Effects	12-Sep-11	Section 5.3 Potential environmental effects of accidents and malfunctions (before mitigation) have not been described, as required under CEAA. Specific mitigation to address these potential effects must be linked and listed within this section. Residual effects need to be described, and the significance assessed.	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Residual Effects	12-Sep-11	Section 5.4 Mitigation effects should be specified, residual effects described, and significance assessed for this section.	This version of the Draft ER was withdrawn; the comment no longer applies.	11 and 12

Transport Canada (TC)				Report Reference
Theme	Date	Comment	Response	Section
Cumulative Effects	12-Sep-11	<p>7. Cumulative Effects Table 6</p> <p>This Table should be revised to incorporate the text that follows, instead of splitting the information and analysis in order to make the cumulative effects assessment clear and transparent. Check marks should be replaced with descriptive text that identifies the extent to which the effects overlap in space and time with project-specific effects. The Table should include a column identifying mitigation for each cumulative effect identified.</p> <p>See also comments on section 5 re: significant environmental effects and course of action decision under CEAA.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	13
Cumulative Effects	12-Sep-11	<p>Flow and inundation effects on water quality, movement and erosion Description of cumulative effects of Third Falls GS is unclear.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	13
General Comment	12-Sep-11	<p>10.0 Commitments General Comment</p> <p>The list of further investigations appears to be incomplete, based on the content of sections 2, 3 and 5.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	18
Comment-Response Table	12-Sep-11	<p>11. Conclusions Page 119 "A comprehensive agency and public consultation program also contributed key information towards the identification of the potential adverse and positive environmental effects".</p> <p>As noted above, comment-response tables should be provided to validate this conclusion.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	17
Class EA - Environmental Effects	12-Sep-11	<p>Page 121 "There are also many positive environmental effects associated with the project which are considered to off-set the adverse environmental effects associated with the project..."</p> <p>For purposes of CEAA, positive environmental effects cannot offset significant adverse environmental effects in order for the federal RAs to determine that the project will not be likely to cause significant adverse effects.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	Potential Effects Matrix, Table 12
Stakeholder Consultation	12-Sep-11	<p>Transport Canada looks forward to receiving a revised draft EA screening report that complies with all the requirements of CEAA, and as set out in the scoping document, for formal FRT review. TC will provide further comments at that time.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	17
General - Information Request	12-Sep-11	<p>For future projects that Xeneca intends to submit for FRT commentary, it is expected that the FRT will be given a chance to review a draft report before it is made public, in particular if it is to serve as the federal screening report as well.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a

Ministry of Tourism and Culture (MTC)				Report Reference
Theme	Date	Comment	Response	Section
Cultural Heritage Resources	12-Sep-11	<p>All known and potential cultural heritage resources and potential project impacts on those resources is inconsistent.</p> <p>Under subsection 2.10.2 it states that based on the results of the Stage 1 assessment the potential for the presence of built heritage structures within the project area is expected to be negligible.</p> <p>However, Table 4: Identified Issues and Management Strategies does address cultural heritage landscapes.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.8, 11.8 and 12.8
Cultural Heritage Resources	12-Sep-11	<p>MTC would like to clarify that the purpose of a Stage 1 assessment is for the consultant archaeologist to determine whether there is potential for archaeological sites in the project area. He or she reviews geographic, land use and historical information for the project area, visits the property to inspect its current condition and contacts this ministry to find out whether or not there are any known archaeological sites on or near the project area. A Stage 2 assessment is required when the consultant archaeologist identifies areas of archaeological potential.</p> <p>Archaeological assessments do not address known or potential built heritage resources or cultural heritage landscapes therefore it is not sufficient to use only the findings of an archaeological assessment to support the conclusion that these types of cultural heritage resources are not present within the study area.</p> <p>Furthermore, Appendix B Potential Effects Matrix for Construction and Operation indicates the potential level of effect on all cultural heritage resources (archaeological resources, built heritage resources and cultural heritage landscapes) is unknown and that appropriate mitigation measures will be proposed, as required, based on assessment findings.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.8, 11.8 and 12.8
Cultural Heritage Resources	12-Sep-11	<p>Under Section 5 of the report Evaluation of Potential Project Effects it states "The purpose of an environmental assessment is to identify all the ecosystem components that make up the environment (biological, social and economic) within the project area, and evaluate how the project would affect these valued ecosystem components during its construction, operation and end of life cycles." The current Environmental Report does not demonstrate that enough information has been gathered in order to identify all cultural heritage resources that may be located within the project area, and therefore evaluate potential project impacts, as is required by the Class EA process.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.8, 11.8 and 12.8

Ministry of Tourism and Culture (MTC)				Report Reference
Theme	Date	Comment	Response	Section
Cultural Heritage - Archaeological Sites	12-Sep-11	Section 9 Regulatory Approvals and Permits includes Table 7: List of Potential Regulatory Approvals. The Ministry of Tourism and Culture (MTC) is included an agency within this table. The Ministry licenses all archaeologists who carry out fieldwork in Ontario, and as a condition of their licence, archaeologists must document the results of the fieldwork they carry out in Ontario by filing archaeological reports with this ministry for review. MTC is not an approval authority. Ministry staff review each report prepared by licensed archaeologists, including archaeological assessment reports, to ensure that the licensed archaeologist has met the terms and conditions of his or her licence, including our requirements for fieldwork and reporting.	This version of the Draft ER was withdrawn; the comment no longer applies.	9.8.1, 11.8.1 and 12.8.1
Marine Archaeological Assessment	12-Sep-11	The archaeological fieldwork and reporting completed to date for this project addresses only land based impacts. Due to the nature of this project, as a best practice MTC recommends undertaking a marine archaeological assessment for those areas where there is a possibility of impacting potential marine archaeological sites.	This version of the Draft ER was withdrawn; the comment no longer applies.	17
Cultural Heritage Resources	08-Aug-13	As you may be aware, MNR has recently shared information on a number of potential Culturally Modified Trees in proximity to the Third Falls location of the proposed hydroelectric developments along Ivanhoe River (e-mail attached for your reference). Based on this new information, we recommend that your consultant archaeologist conduct an assessment and evaluation of the sites in question. Once the subsequent AA report has been reviewed and accepted by MTCS, and entered into the Provincial Register, the recommendations should be incorporated into the Draft Environmental Report and EA decision making.	A second specialist in cultural heritage has been sent to the site and the trees were found not to be CMTs. The results are included in the ER Annex V.	9.8, 11.8 and 12.8
Cultural Heritage Resources	04-Nov-13	The Ministry of Tourism, Culture and Sport's ("MTCS") interest in this Proposed Project relates to our mandate of conserving, protecting and preserving Ontario's heritage including cultural heritage landscapes, built heritage resources and archaeological resources. MTCS has reviewed the Draft ER, and has the following comments: Further to our comments provided on September 12, 2011 we find that built heritage resources and cultural heritage landscapes have not been fully addressed in the Draft ER and a rationale has not been provided for why marine archaeology has not been addressed as part of the EA.	In regards to the built heritage assessment and cultural heritage assessment, our licensed archeologist conducted a Stage 2 Archaeological Assessment and did not identify any built heritage structures or features within the project area. In his opinion, there were no cabins, evidence of historic logging activity, mining or other industrial activities, and bridges, engineering works, monuments, farmsteads, etc. in evidence that would warrant a built heritage assessment or cultural heritage assessment. A completed MTCS Built Heritage Resource and Cultural Heritage Landscape Checklist is attached for your information. This information does not seem to support the need for Cultural Heritage Resources or Marine Archeology assessments.	9.8, 11.8 and 12.8

Ministry of Tourism and Culture (MTC)				Report Reference
Theme	Date	Comment	Response	Section
Cultural Heritage - Archaeological Sites	04-Nov-13	Section 2.10.1 Archaeological Sites and Assessments describes how the Stage 1 and 2 Archaeological Assessments conclude that “there is no archaeological or cultural heritage potential” within the proposed project areas. The term “cultural heritage resources” is understood to include built heritage resources, cultural heritage landscapes and archaeological resources. A Stage 1 and 2 Archaeological Assessment is intended to address archaeological resources only and not built heritage and cultural heritage landscapes. Therefore, this section of the Draft ER should be revised to speak to archaeological resources only, and not to “cultural heritage potential” as this terminology is misleading.	The text in the draft ER will be revised and relabelled to address archaeological resources only.	9.8.1, 11.8.1 and 12.8.1
Cultural Heritage - Archaeological Sites	04-Nov-13	Similarly, the following statements should be revised (recommended text is underlined): Second paragraph of page 28, the Draft ER states that “a Stage 1 Archaeological Impact Assessment was completed for both the Chute and Third Falls proposed project areas ... to gain an understanding of the cultural heritage of the area. This should be revised to state that the Stage 1 AA was completed to gain an understanding of the archaeological potential of the area”; The final paragraph of page 28 states that “As a result of the Stage 2 assessment, no cultural heritage resources were identified at the Third Falls project site”. This should be revised to state, “As a result of the Stage 2 assessment, no archaeological resources were identified at the Third Falls project site”.	The text will be revised accordingly.	9.8.1, 11.8.1 and 12.8.1
Cultural Heritage Resources	04-Nov-13	To assess the full suite of cultural heritage resources, the proponent must undertake the identification and assessment of built heritage resources and cultural heritage landscapes, with the assistance of a qualified professional if necessary, and must incorporate this assessment into the ER. To assist with the identification and assessment of built heritage resources and cultural heritage landscapes, I am attaching MTC’s screening checklist. This checklist can assist in identifying potential built heritage resources and cultural heritage landscape.	Thank you for providing a copy of the checklist. It has been completed and a copy is attached. The results show there are no existing cultural or built heritage features in the project area that require assessment. The issue related to Chapleau Cree comment is not about cultural heritage landscape anywhere, but one related to a cultural preference to use more natural/environmental built forms, where ever possible. The sentence was not implied to suggest that any place has potential cultural heritage landscape value.	9.8, 11.8 and 12.8
Cultural Heritage Resources	04-Nov-13	In Annex V, Archaeological Assessments, we note that the Chute and Third Falls sites include Crown Land. Please be aware that the Standards and Guidelines for Conservation of Provincial Heritage Properties (Standards & Guidelines), prepared pursuant to Section 25.2 of the Ontario Heritage Act, came into effect on July 1, 2010, and apply to properties of cultural heritage value or interest located on land owned or controlled by the province. All ministries and prescribed public bodies shall comply with the Standards & Guidelines.	Thank you for this information.	9.8, 11.8 and 12.8

Ministry of Tourism and Culture (MTC)				Report Reference
Theme	Date	Comment	Response	Section
Cultural Heritage Resources	04-Nov-13	Table 26: Identified Issues, Summary of Mitigation and Potential Residual Effects This table includes the reoccurring error in assumption that the Archaeological Assessments completed to date have addressed the potential for built heritage resources and cultural heritage landscapes. This section under "Mitigation" needs to be modified to fully address built heritage resources and cultural heritage landscapes after seeking the advice of a qualified professional. Also, please revise the Environmental Component currently listed as "Buildings or Structures" to read "Built Heritage Resources" (which can include elements of the built environment such as engineering works, monuments, farmsteads, bridges, etc.).	This comment is acknowledged.	9.8, 11.8 and 12.8
Cultural Heritage Resources	04-Nov-13	Table 27: Residual Environmental Effects and Significance We note that Built Heritage Resources and Cultural Heritage Landscapes are not included in this Table. This table will need to be updated following the identification and assessment of built heritage resources and cultural heritage landscapes, as recommended above.	The need for such assessments is not clear. Our archeologist has not identified any features that may require these assessments. Our dam will be built from standard concrete and not natural materials. This is now required under the new Dam safety Guidelines and we can no longer entertain the possibility of using natural materials to build the dam.	9.8, 11.8 and 12.8
Cultural Heritage Resources	04-Nov-13	Section 15 Conclusions We note the reoccurring error noted above in this section, where it is stated that "the Stage 1 and 2 Archaeological Assessments of the project determined that there were not cultural resources which would be impacted by the project". This section should be revised to more clearly describe how there were no known archaeological sites documented in the Archaeological Assessments to date, but that upcoming Archaeological Assessments will examine the proposed access roads for the project. Furthermore, as described above, Archaeological Assessments are not intended to address built heritage resources or cultural heritage landscapes and cannot be relied upon in the assessment of impacts to these cultural heritage resources.	The text will be revised accordingly. Access roads and laydown areas study will be included in the final ER.	9.8, 11.8 and 12.8
Marine Archaeology	04-Nov-13	Marine Archaeology We note that a marine Archaeological Assessment was not undertaken as recommended in our comments dated September 12, 2011. Please provide a rationale for why this assessment was not undertaken or retain a consultant to address this component of the environment.	There was no evidence to support the need for a marine assessment. The complete absence of any built heritage features within the river does not support the need to do a heritage assessment. There are no buildings associated with the river. There are no features that would suggest marine archaeological/cultural resources (e.g., evidence for historic logging activity, mining activity etc.). Further, the falls are too dangerous to attempt running by canoe. Apart from a modern campsite and boat launch area, there is nothing to reasonably suggest that marine archaeological/cultural resources could be expected.	17

Natural Resources Canada (NRCan)				Report Reference
Theme	Date	Comment	Response	Section
Project Permitting	19-Apr-11	Indicated that it did not have a trigger at this time and would continue to provide advice or documentation at the request of the Responsible Authorities.	This version of the Draft ER was withdrawn; the comment no longer applies.	7
General Comments	12-Sep-11	<p>In anticipation of the large number of run-of-the-river hydroelectric generating facilities currently proposed in Ontario that may undergo federal environmental assessment under CEAA, Natural Resources Canada (NRCan) has compiled some general advice on our areas of technical expertise related to this type of project. The advice contained in this document could assist departments that are Responsible Authorities (RAs) in ensuring that information provided by the proponent is adequate to make a decision on the likeliness of significant environmental effects.</p> <p>The following provides guidance to the RA(s) on: i) the seismic hazard assessment requirements and whether NRCan needs be engaged in their review, and ii) measures to characterize the potential for mercury (Hg) mobilization, and possible mitigation recommendations. NRCan would not generally see a need to review small scale run of the river hydro projects with respect to river channel changes or river bank stability/morphology issues.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	n/a
Seismic Hazard Assessment	12-Sep-11	NRCan recommends that the responsible authorities seek assurance that the proponents will ensure that the dams for the projects will be engineered according to the Canadian Dam Safety Guidelines (DSG) for seismic issues (2007 version section 6.5 and supporting Technical Bulletin "Seismic hazard considerations for dam safety"). It is important to ensure that there are safeguards in place to avoid the risk of dam-integrity failure through earthquake shaking, followed by a breach where the resultant downriver flows would exceed the current design flood levels for the river. Projects with entirely concrete construction and small-volume head ponds pose little risk even if located in a high seismic region, while high earthen dams with large-volume head ponds in moderate or higher seismic regions may need special attention.	This version of the Draft ER was withdrawn; the comment no longer applies.	14.1.5 and 14.2.6

Natural Resources Canada (NRCan)				Report Reference
Theme	Date	Comment	Response	Section
Seismic Hazard Assessment	12-Sep-11	<p>In terms of review and compliance with the DSG, it would helpful if the proponents gave the proposed Dam Classification (DSG Table 2-1) for the project, as this drives the suggested design earthquake levels (Technical Bulletin Table 1). For Low, Significant and High classes, it should be acceptable to state that the design complies with DSG using the current National Building Code seismic hazard values. While the dam classification is not related to "size" or power output, it is expected that most "small hydro" projects would fall into one of these categories. For dams in higher categories (Very High, Extreme) the annual exceedence probability of earthquake shaking recommended for design is 1/5,000 or 1/10,000 per annum and a site specific seismic hazard analysis (or justification for it not being needed) could be reviewed by NRCan.</p> <p>Specifically, proposed dams on the Petawawa River are in a moderate-hazard region and involve earthen elements, therefore some level of NRCan EA review (beyond compliance with DSG) may be needed (and will be if their consequence classification is above "high"). Other dams proposed in Ontario appear likely to be in low hazard regions and seem unlikely to need more than "compliance".</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	14.1.5 and 14.2.6
Natural Environment - Surface Water	12-Sep-11	<p>Methyl mercury mobilization is an important consideration for hydroelectric projects. If the watercourses and water surface areas affected by the projects will be sites where fishing activities occur it becomes even more important. NRCan recommends that geochemical characterization of the soils and litter as a function of the type of vegetation cover should be undertaken prior to flooding.</p> <p>NRCan also recommends that in areas where fishing is most likely to occur, selective clearing of forest, brush, and litter in older growth forests where mercury and organic carbon concentrations are higher should be considered; given the small dimensions of the reservoirs, this may not be very onerous. Many of the sites are located in mixed forest, where data on mercury in soils/litter are fairly rare, making it important to undertake geochemical characterization.</p>	This version of the Draft ER was withdrawn; the comment no longer applies.	9.2, 11.2 and 12.2

APPENDIX N1

**Federal Agency
Correspondence and Minutes**

June 10, 2010

Ontario Regional Office
Canadian Environmental Assessment Agency
22nd Floor, Place Bell
160 Elgin Street
Ottawa ON K1A 0H3

To whom it may concern,

As you may be aware, Xeneca Power Development Inc. has been awarded 19 Feed in Tariff contracts by the Ontario Power Authority ("OPA") to purchase water generated renewable power. Listed below are the sites within the Province of Ontario:

Allen & Struthers – MNR site # 2DB13, 2DB14 on the Wanapitei River
Cascade Falls – MNR site # 2CF09 on the Vermillion River
At Soo Crossing – MNR site # 2CF11 on the Vermillion River
Wabageshik – MNR site # 2CF12 on the Vermillion River
McPherson Falls – MNR site # 2CF46, 2CF47 on the Vermillion River
Four Slide Falls – MNR site # 2CD14 on the Serpent River
McCarthy Chute – MNR site # 2CD15 on the Serpent River
Near North Boundary – MNR site # 4LF09 on the Kapuskasing River
Middle Twp. Buchan – MNR site # 4LF05 on the Kapuskasing River
Lapinigam Rapids – MNR site # 4LE03 on the Kapuskasing River
Outlet Kapuskasing Lake – MNR site # 4LE01 on the Kapuskasing River
Ivanhoe: Third Falls – MNR site # 4LC17 on the Ivanhoe River
Ivanhoe: The Chute – MNR site # 4LC18 on the Ivanhoe River
Wanatango Falls – MNR site # 4MD02 on the Frederick House River
Larder & Raven – MNR site # 2JC21, 2JC22 on the Larder River
Marter Twp. – MNR site # 2JC16, 2JC17 on the Blanche River
Big Eddy – MNR site # 2KB21 on the Petawawa River
Half Mile Rapids (at CFB Petawawa) on the Petawawa River

An attached map provided on CD will help to further identify the site locations for each of the projects. Additionally, included in this package is a draft of the Notice of Commencement under the Class EA for Waterpower Projects which will be issued shortly, as well as descriptions of the projects listed above.

This letter is intended to notify your agency of the pending projects and invite agency comment and/or participation where applicable.



Upon review, you may be aware the OPA schedule will prove challenging to both Xeneca and the affected government agencies, as we now have less than 60 months to bring these waterpower projects to commercial operation. This concurs with an analysis of the process by the Ontario Waterpower Association, industry experts and our consultants.

To move forward in a timely manner, we are requesting the following:

- CEAA's acknowledgement of receipt of this notice.
- Indication if CEAA intends to comment on some, or all of the projects. If CEAA intends to participate, please indicate the appropriate agency personnel who will handle the Xeneca project files.
- A CEAA list of any known issues, concerns and/or comments with respect to the projects, as well as any known non-government stakeholders whom may have interest in these projects.

Please note Xeneca is prepared to meet with CEAA by teleconference to discuss any issues, and requests to be advised of any permits CEAA may require from Xeneca and/or its consultants in order to complete CEAA policy and procedures.

Please contact Xeneca Power Development Inc. with any questions or concerns.

Yours truly,

A handwritten signature in black ink, appearing to read "Patrick Gillette", is written over a light blue horizontal line.

Patrick Gillette
President and COO
Xeneca Power Development LP

November 2010

Dear Government Agency or Municipal Official:

Welcome to the start-up activities on development of the Class Environmental Assessment for Waterpower Projects (Class EA) for the proposed Xeneca Power Development Inc. proposed GS project in your jurisdiction. This first step of the EA process is intended to establish the initial conceptual design, start a dialogue on regulatory approval requirements and initiate public consultation and Aboriginal engagement in the Class EA process. To this purpose, Xeneca and its consultants from OEL-HydroSys Inc. are pleased to present you with the Project Description for this proposed project.

This Project Description is provided to assist the proponent in ensuring that all aspects of the project are accounted for in enough detail to allow the public, Aboriginal communities and government agencies to provide meaningful comment throughout the Class EA process. This document attempts to delineate the 'footprint' of the project within the environmental context of the study area and initially identify features of the environment that may be affected (directly and indirectly) by the proposed project. Xeneca acknowledges that additional potential effects may be identified throughout subsequent phases of the Class EA process as input is received from all stakeholders.

In the early stages of this engagement process, a proponent-led EA coordination meeting will be undertaken with key government agencies and interested Aboriginal communities to coordinate an integrated planning process and to identify environmental concerns and diverse regulatory and management planning requirements that may be associated with the proposed project. This document is intended to assist you in preparing for this engagement process. A detailed list of the federal and provincial regulatory agencies, municipalities, and Aboriginal communities which are receiving a copy of this document directly is included within the document. We will be contacting this distribution group shortly to inquire as to their availability for participation in a Class EA Coordination meeting for this proposed small waterpower development project.

The general public and other groups are also invited to review this document. The document will be provided to these parties through postings on the Xeneca website or, upon request, by direct mail.

If you have any questions or comments in relation to the Class EA for Waterpower Projects planning process or environmental impact assessment related matters, please do not hesitate to contact the OEL-HydroSys Inc. Environmental Assessment Manager, Ms. Tami Sugarman at (613) 839-1453 ext. 229 and tsugarman@oel-hydrosys.ca or Xeneca's Manager of Environmental Studies and Assessment, Edmond Laratta, at (416) 590-9362 ext. 106 and elaratta@xeneca.com .

For questions or comments in relation to all other aspects of the development proposal please contact Xeneca's President, Mr. Patrick Gillette at pgillette@xeneca.com or Xeneca's First Nation and Aboriginal Relations Liaison, Mr. Dean Assinewe at dassinewe@xeneca.ca.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Patrick W. Gillette". The signature is fluid and cursive, with a large initial "P" and "G".

Patrick Gillette
President
Xeneca Power Development Inc.

Ref: Xeneca Project Description Cover Let Nov 2010.doc

CORRECTION NOTICE

Please note the corrections to the following Xeneca Power Hydroelectric Generating Station Projects;

AMMENDMENT TO FIRST NATIONS

Allen and Struthers (Wanapitei River)

The Sagamok First Nation was listed and identified as a Local Aboriginal Community for the Allen and Struthers Project in various sections of the Project Description document. The Sagamok First Nation was not identified as a Local Aboriginal Community by the Ministry of Natural Resources for this project and in these instances should be omitted.

- Page 2; "Distribution" "First Nations"
- Page 8, Section 1.1.5; "Parties who received the Project Description" "First Nations"
- Page 9, Table 1.1; "Government Agencies and Organizations to be Contacted" "First Nations"
- Page 24, Section 3.3.1; "Proximity to Aboriginal Reserves and Traditional Territory"

Larder and Raven (Larder River)

- The Wahgoshig First Nation has been identified by the Ministry of Natural Resources as a Local Aboriginal Community for the Larder and Raven Project. The Wahgoshig First Nation has now been included as a Local Aboriginal Community for the Larder and Raven Project.

Wabagishik Rapids (Vermilion River)

The Wahnapiatae First Nation was listed and identified as a Local Aboriginal Community for the Wabagishik Rapids Project in various sections of the Project Description document. The Wahnapiatae First Nation was not identified as a Local Aboriginal Community by the Ministry of Natural Resources for this project. The Wahnapiatae First Nation is no longer an identified Local Aboriginal Community in the Wabagishik Rapids project.

Furthermore, the Wikwemikong Unceded First Nation is now recognized as a stakeholder in this proposed undertaking.

AMMENDMENT TO ECONOMIC BENEFITS SECTION 1.1.4

There are two entries in Section 1.1.4 Economic Benefits where incorrect calculations were included:

- The sentence; “Local/Regional economic boost of **\$2.5 million per MW** about **\$12 million.**”
- The sentence; “Significant return to the people of Ontario with approximately **\$5 million per MW (\$24 million** over the 40 year lifespan of the project) paid through Gross Revenue Charges (GRC) and Provincial and Federal Income taxes.”

Totals (\$) should accurately reflect the capacity (MW) for each project. As such, the economic benefits will vary for each site. The revised totals for “**Local/regional economic boost**” and “**Significant return to the people of Ontario**” on a site specific basis are listed below.

Allen and Struthers (Wanapitei River)

- **2.8 MW capacity = \$7 million; \$14 million**

Big Eddy (Petawawa River)

- **5.3 MW capacity = \$13.3 million; \$26.5 million**

The Chute (Ivanhoe River)

- **3.6 MW capacity = \$9 million; \$18 million**

Half Mile Rapids (Petawawa River)

- **4.8 MW capacity = \$12 million, \$24 million**

Four Slide Falls (Serpent River)

- **7.3 MW capacity = \$18.3 million, \$36.5 million**

McCarthy Chute (Serpent River)

- **2 MW capacity = \$5 million, \$10 million**

Larder and Raven (Larder River)

- **1.25 MW capacity = \$3.1 million, \$6.3 million**

Wabagishik Rapids (Vermilion River)

- **3.4 MW capacity = \$8.5 million, \$17 million**



Fisheries and Oceans
Canada

Pêches et Océans
Canada

1219 Queen St. East
Sault Ste. Marie, ON
P6A 2E5

1219 rue Queen est
Sault Ste. Marie (Ontario)
P6A 2E5

July 19, 2011

Your file *Votre référence*

Our file *Notre référence*
09-HCAA-CA4-02005

Patrick Gillette
Xeneca Power Development Inc.
5160 Yonge Street Suite 520
Toronto ON M2N 6L9

Dear Mr. Gillette:

Subject: *Authorization under the Fisheries Act – Start of environmental assessment under the Canadian Environmental Assessment Act*

Fisheries and Oceans Canada (DFO) has concluded that your proposal received on June 4, 2009 concerning the proposed construction of a hydroelectric generating station at The Chutes on the Ivanhoe River will require one or more *Fisheries Act* Authorizations. To expedite future correspondence or inquiries, please refer to your referral title and file numbers when you contact us.

DFO File No.: **09-HCAA-CA4-02005**
Title: **Hydro Electric Facility, Ivanhoe River, Oates Township**

It is our understanding that your proposal consists of:

- *The construction and operation of a hydroelectric generating station consisting of an 85 m concrete spillway dam and 110 m earthen embankment across the river.*

as outlined in the following plans:

- *Project Description The Chute (Ivanhoe River) Hydroelectric Generating Station, Xeneca Power Development Inc., received on November 29, 2010.*

If the above plans have changed since the time of your submission, you should consult with us to determine if the information in this letter still applies.

The destruction of fish by means other than fishing and the harmful alteration, disruption or destruction of fish habitat is prohibited unless authorized by DFO pursuant to Section 32 and subsection 35(2) of the *Fisheries Act*. In reviewing your proposal and the above

.../2

mentioned impacts, we will consider the Department's Policy for the Management of Fish Habitat, which provides that no authorizations be issued unless acceptable measures for any habitat loss are developed and implemented by the proponent.

Please be advised that Section 32 and subsection 35(2) of the *Fisheries Act* are included in the list of laws that trigger the *Canadian Environmental Assessment Act* (CEAA). This means that DFO is required to conduct an environmental assessment of your project, as prescribed by CEAA, before deciding to issue an authorization. Your project description information will be circulated to other federal government departments for their review and comments. If, as a result of the environmental assessment under the CEAA, we are satisfied that the project, after taking into account the implementation of any mitigation measures, is not likely to cause significant adverse environmental effects, an authorization under the *Fisheries Act* may be issued.

IMPORTANT NOTE: Information provided by you related to the Environmental Assessment for this project will be part of the Canadian Environment Assessment Registry and will be made available to members of the public, if requested. A package with additional information about these requirements is attached. Please ensure that you review and understand these requirements. Please be aware that release of documents to the public may be part of the CEAA process. Should you provide any documents that contain confidential or sensitive information that you believe could be protected from release to the public, please contact the undersigned to obtain an Exclusion Form. This Form can be used to identify the information to be considered for exclusion from the Canadian Environment Assessment Registry and the rationale for the exclusion.

Should you have any questions or comments, please contact Alan Rowlinson at 705-941-2010, by fax at 705-941-2010 or by e-mail at Alan.Rowlinson@dfo-mpo.gc.ca.

Yours sincerely,



Carl Jorgensen
Habitat Team Leader
Northern Ontario

Attachments: Important Note – CEA Registry Requirements
Section 55 of CEAA

Copy: Dave Bell – Canadian Environmental Assessment Agency
Haya Finan – Transport Canada
Tami Sugarman – OEL-Hydrosys

Canada

The Chute (Ivanhoe River) Hydroelectric Generating Station

Scope of Project and Scope of Assessment

1.0 Introduction and Purpose

The following outlines the *Scope of Project* and *Scope of Assessment* for Xeneca Power Development Inc.'s proposed hydroelectric development at The Chutes on the Ivanhoe River in Oates Township approximately 23 kilometres downstream of the Town of Foleyet.

1.1 Project Summary

The proposed The Chute (Ivanhoe River) Hydroelectric Generating Station will be operated as a run-of-river with modified peaking facility. The generating station will have an output of 3.6 MW from a gross head of 9.5 m and will consist of an 85 m concrete spillway dam and 110 m earthen embankment across the river to divert water into the powerhouse which will be close coupled with the dam.

1.2 Federal Regulatory Requirements

The *Navigable Waters Protection Act (NWPA)*, administered by Transport Canada (TC), prohibits the construction or placement of any "works" in navigable waters without first obtaining approval. The proposed concrete weir, earthen dam and related infrastructure may cause a significant interference to navigation and therefore requires an approval under section 5(1)(2) of the *NWPA*.

Fisheries and Oceans Canada (DFO) is responsible for the administration of the habitat provisions of the *Fisheries Act*. This act prohibits the harmful alteration, disruption or destruction of fish habitat (Section 35), the destruction of fish by means other than fishing (Section 32), and requires sufficient flow of water over and below an obstruction for the safety of fish (Section 22). The dam itself will result in the destruction of fish habitat and, without properly installed measures, obstruction of safe upstream and downstream fish migration. Dam operation may also result in the alteration of flows and therefore has the potential to impact spawning, nursery and rearing fish habitats both upstream and downstream. As such, an authorization(s) under subsection 35(2) of the *Fisheries Act* will be required. Furthermore, the possible use of explosives and other construction-related impacts, as well as the ability of fish to enter turbines during operation, can potentially destroy fish by means other than fishing and therefore an authorization(s) under Section 32 of the *Fisheries Act* may be required.

1.3 Canadian Environmental Assessment Act

The *Canadian Environmental Assessment Act (CEAA)* applies when federal authorities contemplate certain actions or decisions in relation to a project that would enable the project to proceed in whole or in part. An environmental assessment (EA) pursuant to CEAA may be required when a federal authority:

- a. is the proponent of a project;
- b. provides financial assistance to the proponent;
- c. sells, leases or otherwise disposes of federal lands; or
- d. issues a permit, license or any other approval as prescribed in the *Law List Regulation*

The aforementioned regulatory approvals required under the *NWPA* and *Fisheries Act* are *Law List Regulation* triggers under CEAA. As such TC and DFO have confirmed that they will require a screening level EA be completed for the project.

The federal review team (FRT) for The Chutes Hydroelectric Generating Station project is as follows:

Responsible Authorities (RAs)

Federal authorities requiring an EA of the project

- Transport Canada
- Fisheries and Oceans Canada

Expert Federal Authorities (FAs)

Federal authorities in possession of specialist or expert information that may assist in the EA

- Environment Canada
- Health Canada
- Natural Resources Canada

Federal Environmental Assessment Coordinator (FEAC)

Responsible for coordinating review activities of RAs and FAs in accordance with Section 12 of CEAA

- Canadian Environmental Assessment Agency (the Agency)

Contact information for the FRT is provided in Appendix A.

Based on the authority provided in subsection 17(1) of CEAA the RAs for The Chutes Hydroelectric project are delegating the responsibility of preparing the EA screening report, including technical studies required to support the report, to Xeneca Power Development Inc. and/or their qualified consultant(s). In order to complete the CEAA process the EA screening report must be submitted for review and approval by the RAs. The screening report must contain enough information to be clear and understandable as a stand-alone document which will constitute the basis for the RAs decision under Section 20 of CEAA.

The proponent has requested to submit the screening report and all supporting technical studies to the Agency in its capacity as the FEAC. The Agency will distribute the screening report and supporting documentation to the FRT for review and comment. Based on content received the RAs may request revisions to the screening report. Once

the screening report is complete to the satisfaction of the RAs they will use the information contained in the screening report to make a determination on the significance of the environmental effects.

1.4 Federal/Provincial Harmonization

The Chutes Hydroelectric Generating Station proposal is also subject to an environmental screening process in accordance with the Ontario Waterpower Association Class Environmental Assessment (Class EA) for Waterpower Projects, the Ministry of Natural Resources Resource Stewardship and Facility Development Class EA. As such, in accordance with the Canada-Ontario Agreement on Environmental Assessment Coordination the proponent should aim towards preparing a single EA screening report that meets both federal and provincial EA requirements.

The proponent should ensure that they understand the differences between the provincial and federal EA processes and should ensure that all CEAA requirements are fulfilled prior to releasing the screening report for final review as part of the provincial EA process. Should the proponent decide to proceed to the Notice of Completion stage of the provincial EA process prior to satisfying CEAA requirements it could result in significant delays to the EA process. Questions regarding the coordination of the federal and provincial processes should be directed to the Canadian Environmental Assessment Agency.

2.0 Scope of Assessment

When an EA is triggered under CEAA RAs are required to establish the scope of project and scope of factors to be taken into consideration pursuant to Sections 15 and 16 of CEAA. Scoping establishes the boundaries of an EA and focuses the assessment on relevant issues and concerns.

The RAs have prepared this Scoping Document to provide direction to the proponent on the issues that must be addressed in the screening report. Please note, however, that the information contained in this document does not limit the RAs from requesting additional information or details as they see fit.

2.1 Scope of Project

In accordance with subsection 15(1) of CEAA the scope of project for The Chutes Hydroelectric Generating Station has been identified as the physical works or activities associated with the construction, operation and maintenance of the proposed hydroelectric generating facility as well as the decommissioning or abandonment (where applicable) of certain components of the development proposal. The RA(s) have determined that the scope of project will include the following components:

- The construction, operation and maintenance of a new generating station and dam at The Chutes on the Ivanhoe River.
- The construction, operation and maintenance of a new tailrace and its associated works or undertakings at The Chutes sites.
- The construction of new transmission lines and associated structures.

- The construction or alteration of portage routes either temporary during construction or permanent.
- The construction of new access roads and upgrades to existing access roads.
- Any other works or undertakings directly associated with the hydroelectric project including those that are temporary.

The screening report must provide a complete description of all proposed project components, associated physical works and activities with an approximate schedule (timing, frequency, duration). The report must also clearly state who is responsible for the ownership, construction and operation of each work or activity. The level of detail provided in the project description should be appropriate to the scale and complexity of the project and to the sensitivity of its location. Reference maps and/or site plans should be attached to indicate the project location and/or its key features.

2.2 Scope of Factors

CEAA defines "environment" as the components of the Earth, including:

- a) land, water and air, including all layers of the atmosphere;
- b) all organic and inorganic matter and living organisms; and
- c) the interacting natural systems that include components referred to in paragraphs (a) and (b).

In respect of a project pursuant to CEAA "environmental effect" means:

- a) any change that the project may cause in the environment, including any change it may cause to a listed wildlife species, its critical habitat or the residences of individuals of that species, as those terms are defined in subsection 2(1) of the Species at Risk Act,
- b) any effect of any such change referred to in paragraph (a) on
 - i. health and socio-economic conditions,
 - ii. physical and cultural heritage,
 - iii. the current use of lands and resources for traditional purposes by aboriginal persons, or
 - iv. any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, or
- c) any change to the project that may be caused by the environment.

Subsection 16 (1) of CEAA requires the following factors be considered in a screening level EA:

- a) the environmental effects of the project, including the environmental effects of malfunctions or accidents that may occur in connection with the project and any cumulative environmental effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out;
- b) the significance of the effects referred to in paragraph (a);

- c) comments from the public that are received in accordance with the Act and the regulations;
- d) measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the project; and
- e) any other matter relevant to the screening that the responsible authority may require be considered.

In accordance with subsection 16(3) of CEAA sections 2.2.1 – 2.2.9 of this Scoping Document outline the scope of factors that will be taken into consideration pursuant to CEAA subsection 16(1). Consistent with the overall scoping guidance provided in this document the RAs may revise the scope of factors and/or identify additional factors as the EA progresses.

2.2.1 Spatial and Temporal Boundaries

The spatial boundaries for the assessment are the geographical area within which an environmental component is likely to be affected by the project and for each component where a measurable effect is predicted for the cumulative effects assessment. The temporal boundaries of the assessment are the timeframe over which an environmental component could be impacted by the project.

2.2.2 Environmental Components

Potential interactions between project components and environmental components must be identified and considered as part of the screening. The scope of factors to be considered in the assessment should include but may not necessarily be limited to potential effects (including cumulative effects) on the following environmental components:

- surface geology and soils
- surface water quality and quantity
- ground water quality and quantity
- air quality and climate change
- fish and fish habitat
- vegetation and wetlands
- wildlife and wildlife habitat – including migratory birds
- species at risk – including those species listed under the Species at Risk Act

In keeping with the definition of “environmental effect” as defined by CEAA the scope of factors to be considered should also include the effect of any change that the project may cause in the environment on:

- health and socio-economic conditions including effects to navigation
- physical and cultural heritage
- the current use of lands and resources for traditional purposes by Aboriginal persons

- any structure site or thing that is of historical, archaeological, paleontological or architectural significance

Appendix B provides additional information regarding environmental components and how they should be addressed for this project.

For each environmental component that has the potential to interact with the project a description of the existing conditions must be provided in the screening report. Consideration should be given to details that are relevant for each environmental component. The level of detail should be appropriate to the scale and complexity of the project and to the sensitivity of its location.

2.2.3 Environmental Effects

The definition of environmental effect according to CEAA is provided in section 2.2 above and a list of "Environmental Components to be Assessed" is included in Appendix B. The environmental components considered in the CEAA screening should include but not be limited to those identified in Appendix B. For each environmental component identified as having the potential to interact with project components the screening report must analyze and describe the likely and potential environmental effects including cumulative effects and the effects of accidents and malfunctions.

Likely and potential environmental effects should be considered and described using the following criteria in order to facilitate significance determinations: magnitude, geographic extent, duration, frequency of occurrence, permanence or reversibility of the effects and ecological context. Effects must be identified for all project phases that were identified in the scope of project.

2.2.4 Accidents and Malfunctions

The screening report should identify any accidents and malfunctions that may occur in connection with the project. This should include the assessment of potential environmental effects associated with accidental spills (e.g. fuel, oils, hydraulic fluids, etc.), debris clogging or icing up of flow control gates or outlet structures, dam failure, etc., as well as other accidents and malfunctions that could be expected to occur such as power failures and pump failures. Emphasis should be placed on accidents and malfunctions that are reasonably plausible. The effects of accidents and malfunctions on each environmental component should be considered as well as the contribution to cumulative effects.

2.2.5 Cumulative Effects

In undertaking the environmental assessment for The Chutes hydroelectric project the net environmental effects associated with the project will be considered in combination with the environmental effects of other past, present or future projects or activities to determine the potential for cumulative environmental effects. Projects that "will likely be carried out" are defined as those projects for which an environmental assessment has been undertaken and where approval has already been provided. Cumulative

environmental effects considered must be related to a direct environmental effect of the project but the direct effect need not be significant on its own.

2.2.6 Effects of the Environment on the Project

The screening should assess the environmental effects of geological, climatic and other natural phenomena on the project including effects associated with:

- extreme drought, flooding or rainfall including that associated with climate change and any associated geophysical effects (e.g. increase erosion potential, changes to bank stability in reservoir areas, abnormally elevated/depressed groundwater levels, etc.); and
- other extreme events (e.g. ice storms, river ice formation and jamming, forest fires, tornados or earthquakes, etc.).

The proponent must demonstrate that the project design is sufficiently robust to accommodate any expected changes in extreme flows, precipitation and temperature without potential failure. Emphasis should be on environmental conditions that are reasonably plausible, but should not be limited to events that occur on a regular basis.

2.2.7 Mitigation Measures

For each potential adverse environmental effect, including cumulative effects, technically and economically feasible mitigation measures must be identified. The screening report should identify any residual effects that will persist after the implementation of mitigation measures and those effects must be carried forward to the cumulative environmental effects assessment (CEEA). Any measurable net (residual) likely adverse environmental effect that potentially affects a valued ecosystem component or valued socio-economic component must be carried forward to the CEEA.. The screening report should also identify compensation measures to offset the loss of fish habitat and its monitoring program. Where mitigation cannot be fully described until the detail design stage the principles and criteria upon which such mitigation will be developed should be provided. The screening report must clearly state who is responsible for implementing each mitigation measure proposed.

2.2.8 Significance of Effects

CEAA requires that RAs determine whether the project is likely to cause significant adverse environmental effects, including cumulative effects. In other words, only environmental effects that are both likely and adverse must be considered in determining significance. The conclusions that are reached in this regard must be systematically documented.

While the final determination of significance rests with RAs the information provided by the proponent in the screening report will be used to help make this decision. Conclusions on significance must be clearly supported by and traceable from the description of the existing environment, the description of project activities, the potential interactions (environmental effects) and the predicted effectiveness of the mitigation measures to be applied.

The prediction of significance should be based on such factors as: magnitude, geographic extent, duration, permanence/reversibility and ecological context. Applicable federal or provincial guidelines should be referenced when drawing conclusions about the significance of impacts.

2.2.9 Monitoring and Follow up

Pursuant to section 38(1) of CEEA consideration must be given to the need for a follow-up program. The purpose of a follow-up program is to confirm predictions made during the assessment and to ensure the effectiveness of mitigation measures considered. The RAs will not be in a position to consider the need for a follow-up program until it has examined the proponent's draft screening report. In the event that an adaptive management approach is proposed as a component of mitigation to address unresolved concerns the need for implementing a follow up program should also be identified by the proponent in consultation with the RAs. Nevertheless the requirement for a follow-up program will be determined as the screening proceeds.

Regardless of the requirement to complete a follow-up program pursuant to section 38(1) of CEEA, the screening should address the need for a monitoring program to ensure compliance with identified mitigation measures. In order to ensure effective implementation of the mitigation measures identified in the screening report plans and procedures proposed for quality control and assurance should be described including technical specifications for mitigation works, inspection activities during construction and operation, resolving issues and addressing unforeseen effects that may arise during construction or operation. These plans and procedures should also include, but not be limited to environmental protection plans, emergency/contingency plans, construction environmental specifications, construction special provisions, operational maintenance plans, etc..

APPENDIX A - FEDERAL REVIEW TEAM CONTACT INFORMATION

Agency	Contact Information
Canadian Environmental Assessment Agency	Dave Bell, Program Manager M: 55 St. Clair Avenue East, Suite 907 Toronto, ON M4T 1M2 P: 416.952.1574 E: Dave.bell@ceaa-acee.gc.ca
Transport Canada	Haya Finan, Environmental Officer M: 4900 Yonge Street, 4 th Floor (PHE) North York, ON M2N 6A5 P: 416.952.0486 E: haya.finan@tc.gc.ca
Fisheries and Oceans Canada	Alan Rowlinson, Habitat Biologist M: 1219 Queen Street East Sault Ste. Marie, ON P6A 2E5 P: 705-941-2010 E: alan.rowlinson@dfo-mpo.gc.ca
Environment Canada	Sheryl Lusk, Environmental Assessment Officer M: 4905 Dufferin Street Toronto ON M3H 5T4 P: 416-739-5962 E: sheryl.lusk@ec.gc.ca
Health Canada	Wendy Harris, Environmental Assessment Officer M: 99 Metcalfe Street, 11 th Floor (4111A) Ottawa, ON K1A 0K9 P: 613.946.4754 E: wendy.harris@hc-sc.gc.ca
Natural Resources Canada	Caitlin Scott, Junior Policy Analyst M: 580 Booth Street, 3 rd Floor, Room A9-2 Ottawa, ON K1A 0E4 P: 613.995.7609 E: caitlin.scott@nrcan-rncan.gc.ca

APPENDIX B - ENVIRONMENTAL COMPONENTS TO BE ASSESSED

Surface Geology and Soils

The screening report should describe surface geology and soils in the study area, and should identify any impacts the project may have on the following factors:

- soil and rock types and quality including contaminated sites
- spills and potential for acid rock drainage (ARD) and metal leaching (ML)
- terrain and topography (e.g. excavation and fill requirements excess/waste rock/soil transportation and disposal, proposed temporary and permanent disposal sites, site restoration, etc)
- soil quality including contaminated sites and spills
- hazard lands or unstable lands
- sedimentation, soil erosion, shoreline or riverbank erosion¹
- hazard lands or unstable lands subject to erosion

If and where the project will involve the confinement, removal or remediation of contaminated soils or sediments information on the containment, disposal or treatment method including the potential environmental effects associated with the method should be provided.

Surface Water Quality and Quantity

The screening report should identify the name, location and characteristics of any water bodies in the project area and should describe the potential impact of the project on these watercourses including impacts associated with:

- potable water uses
- recreational water uses
- head pond creation and subsequent flooding of both river and lake environments
- predicted changes to normal/extreme water levels, flows and movement
- predicted changes to the normal/extreme thermal/ice regime
- installation, modification or removal of watercourse crossing structures
- accidental spills, erosion and sedimentation, concreting works² and repairs³, etc., locally generated contaminants entering water bodies (for example fugitive dust, engine emissions, smoke, ash) and under certain circumstances:
 - siting and management of temporary and permanent waste rock/soil disposal areas for management of excess materials from excavations;

¹ A head pond would be created by raising water levels upstream of the proposed dam, possibly flooding shorelines and increasing the normal depth of the river, potentially impacting existing aquatic and shoreline ecosystems. Any existing near shore wetlands and adjacent terrestrial habitat affected by water level changes are potentially impacted.

² Best practices pertinent to concreting near or in water bodies should be adopted, for example, the province of BC has developed interim guidelines available at: <<http://www.env.gov.bc.ca/wld/instreamworks/generalBMPs.htm>>.

When setting water quality targets, please refer to an applicable standards set by Ontario's Provincial Water Quality Objectives (PWQOs) and the CCME's Canadian Water Quality Objectives regarding TSS, turbidity and pH.

³ Operation and maintenance phase only

- acid rock drainage (ARD) from exposed and/or excavated bedrock (identified as having a net acid generating potential) including specific management/disposal options of any materials having a potential for ARD;
- methyl mercury generated in created head pond reservoirs⁴.

The analysis should describe potential effects on the water quality and quantity of receiving water bodies during both the construction and operation phases. The screening report should also indicate whether any of these watercourses are navigable and whether approval under the *Navigable Waters Protection Act* is required. A dam operating strategy and a water management plan should be attached to the screening report.

Ground Water Quality and Quantity

The screening report should provide a description of groundwater resources in the study area (including the depth of the water table) and should indicate whether the groundwater is a source of potable water. The report should identify potential impacts of the project during construction and operation phases on groundwater quality and quantity including impacts associated with:

- potable water uses
- accidental spills and other project effluents
- acid rock drainage and methyl mercury formation
- changes to normal/extreme groundwater levels, flux and movement
- changes to normal infiltration/recharge and seepage/upwelling zones

Air Quality and Climate

The screening report should provide a description of air quality in the vicinity of the project and should indicate the potential impact of the project on air quality. The discussion of potential effects should address the local and regional impacts associated with the construction and operation phases such as:

- emissions of toxic substances including engine exhaust emissions
- dust and smoke emissions
- greenhouse gas emissions
- contributions to formation of local and regional smog, fog, thermal effects, icing and micro climate

The assessment of air quality effects should consider potential adverse impacts on sensitive local receptors as well as the expected overall benefits through carbon abatement. Where positive impacts are expected the report should provide a sound rationale to support the conclusions including quantitative data to the extent possible.

⁴ Methyl mercury formation depends on a number of factors, but is primarily related to the change in headpond water level and volume, amount of organic material present on/in flooded soils, oxygen levels and temperature. The proponent should fully characterize mercury levels in sediments, the water column (low level analysis), and fish tissue; and, evaluate potential changes in mercury levels due to the project and proposed mitigation and monitoring.

Fish and Fish Habitat

In conjunction with the section on surface water the screening report should indicate the presence of fish and fish habitat in the study area and should identify any impacts the project may have including impacts associated with:

- aquatic species at risk listed under the federal *Species at Risk Act* (SARA)
- changes in surface water, groundwater and surface geology and soils that could result in effects to fish and/or fish habitat
- barriers to fish migration
- fish injury or mortality associated with blasting, impingement, entrainment, etc.

When drawing conclusion about the significance of impacts, consideration should be given to DFO's *Policy for the Management of Fish Habitat* (1986).

Vegetation and Wetlands

The screening report should provide a description of vegetation communities and wetlands in the study area including any designations of importance (e.g. Environmentally Significant Areas, Areas of Natural and Scientific Interest, Provincial or locally significant wetlands, etc.). The screening report should identify any impacts the project may have on vegetation and wetlands during construction and operation phases including impacts associated with:

- removal of vegetation
- infilling, flooding, or de-watering of vegetation/wetland communities
- noxious weed and vegetation control (e.g. chemical spray, mechanical)
- changes to wetland ecosystem and function including changes to hydrology and hydrogeology due to head pond creation and modifications to surface drainage patterns
- effects on soils, terrestrial wetlands and wetlands due to disposal of waste rock/soils (and viability of site rehabilitation) including any effects of acid rock drainage
- plant species at risk listed under SARA

The ecological functions of any vegetation and wetland communities and wetland hydrology potentially impacted by the project should be described and potential impacts on those functions should be noted. The screening report should indicate whether the project is located within an area where wetland loss has reached critical levels.

Wildlife and Wildlife Habitat (including Migratory Birds)

In conjunction with the section on vegetation and wetlands the screening report should provide a description of wildlife species and their habitat that are present in the study area at any time during their life cycle including species that may only use the study area on a seasonal basis. In particular, the proponent should consider potential impacts of the project on migratory birds. The screening report should identify any impacts the project may have on wildlife communities or their habitats during construction and operation phases including:

- species diversity, abundance and movement
- terrestrial Species at Risk listed under SARA (including those species observed in the zone of influence of the project and those species with habitats ranging into the project area)

- wildlife habitat abundance, availability, diversity and function (e.g. corridors, breeding, staging and foraging areas) including seasonal uses and specialized habitats used by Species at Risk

Species at Risk

In conjunction with the sections on vegetation, wildlife and fish the screening report should indicate any federally and/or provincially listed Species at Risk that are known to or may be expected to use the site or adjacent lands due to the presence of suitable habitat. This includes those species listed under the Species at Risk Act (SARA). At a minimum the Natural Heritage Information Centre database maintained by the Ontario Ministry of Natural Resources in Peterborough should be consulted for known occurrences of species at risk. Environment Canada - Canadian Wildlife Service should also be consulted to determine if occurrences or ranges of any endangered, threatened and special concern species⁵ overlap with the project's zone of influence.

If there is potential for species at risk to occur at a project site (i.e. previous known occurrence, species range overlap and/or known habitat preference exists) a qualified biologist should conduct a thorough biological inventory of all areas of natural habitat that may be affected by the project and have the potential to support species at risk. The screening report should indicate whether the project activities may have an adverse effect on any species at risk and also include a substantiated professional opinion on the likelihood of the occurrence of such effects. A strategy should be developed to protect any identified species at risk with a primary focus on avoidance.

When a federal EA is carried out on a project that may affect a listed species or its critical habitat, SARA requires that adverse environmental effects be identified, mitigation measures be taken to avoid or lessen adverse effects and environmental effects monitoring be conducted.

Environmental Changes Resulting in Effects on Other Environmental Components

The screening report should identify and address any effects of any change that the project may cause in the environment on:

- Health and socio-economic conditions – including impacts to navigation, noise and vibrations, drinking water quality and quantity, country foods (including those harvested by hunting, trapping, fishing, gathering or small-scale farming), air quality, recreation, cottage use and other tourism, game and fishery resources, electric and magnetic fields emitted by transmission lines, property flooding/flood risk to residential structures
- physical and cultural heritage
- the current use of lands and resources for traditional purposes by Aboriginal persons including traditional food, water (potable and recreational) and medicines
- any structure site or thing that is of historical, archaeological, paleontological or architectural significance

⁵ A useful source of information is the Natural Heritage Information Centre database maintained by the Ontario Ministry of Natural Resources in Peterborough which should be consulted for known occurrences of species at risk. The species currently listed under SARA can be found at the following web sites: http://www.sararegistry.gc.ca/default_e.cfm and http://www.sararegistry.gc.ca/species/default_e.cfm

From: Rowlinson, Alan [<mailto:Alan.Rowlinson@dfo-mpo.gc.ca>]
Sent: Friday, August 12, 2011 10:35 AM
To: Environmental Assessment Information; Ed Laratta; Vanesa Enskaitis
Cc: Jorgensen, Carl A; McDonell, Dan [CEAA]; Bell, Dave [CEAA]; Finan, Haya; Lusk, Sheryl [Ontario]
Subject: RE: Environmental Report Ivanhoe River - The Chute Hydroelectric Generating Station Project

Good morning,

I have been reviewing the DRAFT Environmental Report Ivanhoe River - The Chute Hydroelectric Generating Station Project and have the following comment which will be followed up with by a written response with more detail.

Based on what I have reviewed so far, this document is not Canadian Environmental Assessment Act (CEAA) compliant and in order for it to be accepted as an environmental assessment under CEAA additional work and details will have to be provided. A scoping document was sent to Tami Sugarman (OEL Hydrosys) and Patrick Gillette (Xeneca) on July 21, 2011 outlining information requirements for an EA under CEAA that will need to be addressed and I am looking forward to receiving the revised document addressing these requirements.

Thanks,

Alan Rowlinson

Fish Habitat Biologist/ Biologiste de l'habitat poisson
Northern Ontario District/District du nord de l'Ontario
Ontario - Great Lakes Area / Secteur de l'Ontario et des Grands Lacs
Central and Arctic Region / Région du Centre et de l'Arctique

Fisheries and Oceans Canada / Pêches et Océans Canada
Government of Canada / Gouvernement du Canada

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1219 Queen St E

Sault Ste. Marie ON P6A 2E5

Alan.Rowlinson@dfo-mpo.gc.ca



Transport Canada Transports Canada

Programs and Pickering Lands Branch
Environment and Engineering
4900 Yonge Street, 4th Floor
Toronto, ON
M2N 6A5

September 12, 2011

Our file Notre référence
NEATS 27034

Dear Mr. Gillette:

Subject: Class Environmental Assessment for The Chute Waterpower Project

Thank you for the Environmental Report – Ivanhoe River – The Chute Hydroelectric Generating Station Project, received on July 26, 2011. I have reviewed the documents and have the following comments.

Foreword

Government Agency Engagement Process – Subsection (d)

Transport Canada (“TC”) has an important role under the Navigable Water Protection Act to review construction of a dam in a waterway and deal with any water way crossing for the project. Final detail engineering designs are reviewed by TC and require approval.

TC’s role goes beyond administering the *Navigable Waters Protection Act* and reviewing final engineering designs. TC is also a Responsible Authority (RA) under CEAA and must also ensure a federal environmental assessment is completed, including the preparation of a federal screening report, before an NWPA approval can be issued.

Federal, Provincial, and Municipal Agency and Stakeholder Consultation

This section should provide an explanation of the federal EA process and the roles or purposes of the federal agencies involved under CEAA.

Cumulative Effects

It is TC’s understanding that the Third Falls project has *already* been proposed and therefore to meet CEAA requirements, the cumulative effects of both projects need to be considered in both sets of environmental screening reports.

Conclusion

For CEAA purposes, positive environmental impacts cannot off-set significant adverse environmental impacts, particularly when the effects are not directly related to each other.

Please address in the Foreword whether or not this report has been prepared as a screening-level assessment under CEAA.

1. Introduction

1.3 Overview of the Environmental Screening Process

“Environmental effects may also include the displacement...”

Please footnote the CEAA definition of environmental effect, which differs from the provincial definition.

1.41 Legal Framework

It therefore became an objective to harmonize the multi-jurisdictional regulatory requirements and present the results of the environmental assessment of the proposed undertaking in a single comprehensive document.

In order to produce a single coordinated document that meets requirements of CEAA, substantial revisions are required to this report. As written, the report fails to adequately address the factors required under subsection 16(1) of CEAA and therefore cannot be considered to be a screening report required pursuant to paragraph 14(a) of CEAA.

2. Existing Conditions

General Comment

In section 9, SARA status of species should be noted in addition to provincial status.

2.9.3 Valued Ecosystem Components

Additional work is required to determine the significance of the study area for Large Weasel Denning, and as a result it remains as a candidate significant habitat for the project

This potential effect has not been carried through to Tables 4/5/6

2.11 .9 Aboriginal Land and Water Use

To date no consultation with individual Aboriginal community members to gather information specific to lands and water use has been undertaken.

Per the definition of “environmental effect” in subsection 2(1) of CEAA, as well as requirements of subsection 16(1) of CEAA and the document “The Chute Hydroelectric Generating Station Scope of Project and Scope of Assessment”, the potential effects of the project on the current use of lands and resources for traditional purposes by Aboriginal persons is one of the factors that must be considered in a CEAA compliant screening report, along with the significance of these effects and the proposed mitigation measures.

3. Description of Proposed Project

3.4.3 Access Roads

Any water crossings of the access road must be included in the NWPA application for approval, potentially including upgrades to existing crossings if they have not been previously approved.

3.5.9 Water Crossings

Water crossings of the connection line may not require NWPA approval. Consult the Minor Works and Waters Order at <http://canadagazette.gc.ca/rp-pr/p1/2009/2009-05-09/html/notice-avis-eng.html#d103> to determine if the connection line qualifies.

General Comment

Are any portage routes proposed?

4. Federal, Provincial and Municipal Agency and Stakeholder Consultations

4.2.4 Meetings

The summary of outcomes of meetings held with Aboriginal communities should be included in the main document.

4.3.2 Provincial

Page 55 *“MNR cautioned the proponent about proceeding with the EA planning as site release approval had not yet been provided for the project...The proponent must ultimately demonstrate that water management planning was incorporated into all notification and display material either through the EA or through a separate water management plan amendment process.*

Was water management planning incorporated into all notification and display material?

Page 57 *“Detailed comments for the NOC were provided along with a request for a copy of the final NOC and confirmation of advertising for the Notice”*

Were these comments incorporated/addressed in the NOC?

Page 60 *“LSB members identified that the community’s drinking water and sewage treatment is managed by the Ontario Clean Water Agency (OCWA) and that OCWA should be included in the planning process.*

Has Xeneca included the OCWA in the planning process for this project?

Page 62 – 66 List of issues raised at the PIC and other public concerns

It is not clear how issues raised by the public have been considered and addressed. Please include a comment-response table that identifies comments, and how they have been considered and addressed, along with a reference to a specific location in the report. This table should include not only those comments raised during report preparation, but also expanded to include comments submitted by the public since release of the EA report.

In addition to a public comment-response table, similar additional tables should be prepared for a) agency/stakeholder comments, and b) First Nation/aboriginal community comments.

Page 70 *“It was stated that the Aboriginal community engagement plan will formally begin after the issuance of the Notice of Competition”*

Since the Notice of Completion has been issued, has the Aboriginal community engagement plan begun?

5. Evaluation of Potential Project Effects

Introduction

Since this report is being prepared to meet federal requirements under CEAA, the federal definition of environmental effect should be provided as per subsection 2(1).

Table 4

- For CEAA purposes, Column two should reflect Potential Environmental Effects rather than “Issue”
- In many cases, the environmental effects are not described (e.g. just noted as an “effect”, or a component of the project). All environmental effects should be adequately described.
- There are numerous potential issues which have mitigation still to be determined, and/or where the residual effects are unknown due to outstanding data and information (and therefore cannot be carried through to Tables 5 and 6). Sufficiently complete baseline studies upon which environmental effects can be predicted, analyzed and mitigated. These gaps need to be addressed for federal EA purposes, in order to ensure consideration of all factors listed in subsection 16(1) of CEAA, and to allow Transport Canada make significance determinations pursuant to section 20 of CEAA.
- If multiple options are still be considered for project components moving forward, all options should be fully assessed within the EA.

5.1.6 Navigation

“Access to the Ivanhoe River is via boat launch immediately downstream of the project site”

How will the boat launch be affected by the project?

Table 5 Residual Environmental Effects and Significance

Significant Residual Environmental Effects:

Fish Habitat (Walleye and White sucker spawning habitat)

Fish Habitat (Removal of existing rapids identified as spawning habitat)

Fish Habitat (limit upstream fish movement)

Unable to Determine Significance

Fish Habitat (Northern Pike and habitat)

Fish Habitat (Brook trout and habitat)

The federal EA decision is made on the basis of a *determination of significance* of the potential environmental effects. In accordance with the CEAA requirements for a screening-level EA under CEAA, Transport Canada may only provide its support to this project in the form of an approval under the Navigable Waters Protection Act, if it is determined that the project is **not likely** to cause significance adverse environmental effects.

As listed above, Table 5 identifies a number of **significant** residual environmental effects. If further mitigation is not developed to reduce these effects to a point where they are considered to be not likely significant, Transport Canada will be unable to take a course of action decision under paragraph 20(1)(a) of CEAA which would allow the department to proceed with regulatory approvals. Instead, a course of action under paragraph 20(1)(b) or 20(1)(c) would apply.

As listed above Table 5 also identifies residual effects for which the significance is not known. This is in addition to numerous potential environmental effects identified in Table 4, where residual effects are identified as unknown and therefore have not been assessed for significance. Additional project, baseline, and mitigation information must be collected/developed to address these uncertainties in order to support an appropriate course of action decision pursuant to section 20 of CEAA.

Section 5.3

Potential environmental effects of accidents and malfunctions (before mitigation) have not been described, as required under CEAA. Specific mitigation to address these potential effects must be linked and listed within this section. Residual effects need to be described, and the significance assessed.

Section 5.4

Mitigation effects should be specified, residual effects described, and significance assessed for this section.

7. Cumulative Effects

Table 6

This Table should be revised to incorporate the text that follows, instead of splitting the information and analysis in order to make the cumulative effects assessment clear and transparent. Check marks should be replaced with descriptive text that identifies the extent to which the effects overlap in space and time with project-specific effects. The Table should include a column identifying mitigation for each cumulative effect identified.

See also comments on section 5 re: significant environmental effects and course of action decision under CEAA.

Flow and inundation effects on water quality, movement and erosion

Description of cumulative effects of Third Falls GS is unclear.

10.0 Commitments

General Comment

The list of further investigations appears to be incomplete, based on the content of sections 2, 3 and 5.

11. Conclusions

Page 119 *“A comprehensive agency and public consultation program also contributed key information towards the identification of the potential adverse and positive environmental effects”*

As noted above, comment-response tables should be provided to validate this conclusion.

Page 121 *“There are also many positive environmental effects associated with the project which are considered to off-set the adverse environmental effects associated with the project...”*

For purposes of CEAA, positive environmental effects cannot offset significant adverse environmental effects in order for the federal RAs to determine that the project will not be likely to cause significant adverse effects.

Transport Canada looks forward to receiving a revised draft EA screening report that complies with all the requirements of CEAA, and as set out in the scoping document, for formal FRT review. TC will provide further comments at that time.

For future projects that Xeneca intends to submit for FRT commentary, it is expected that the FRT will be given a chance to review a draft report before it is made public, in particular if it is to serve as the federal screening report as well.

Should you have any questions or comments, please call me at 416-952-0486 or by email at haya.finan@tc.gc.ca.

Sincerely,



Haya Finan
Environmental Officer
Transport Canada
Ontario Region

c.c.:
Federal review team for The Chute Waterpower Project (Ivanhoe River)
Tami Sugarman
Ed Laratta
Cindy Bautista



5160 Yonge St., Suite 520, Toronto, ON M2N 6L9
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October 14, 2011

Dan McDonell
Canadian Environmental Assessment Agency
Ontario Region
55 St. Clair Avenue East
Suite 907,
Toronto, ON M4T 1M2

And

Alan Rowlinson
Fisheries and Oceans Canada
1219 Queen Street East
Sault Ste. Marie, Ontario
P6A 2E5

Dear Sirs:

RE: Canadian Environmental Assessment Agency Class Environmental Assessment for Waterpower comment for the Chute, Ivanhoe River.

Xeneca Power Development Inc. ("Xeneca") has received your comment letter on the Chute waterpower project on the Ivanhoe letter. Xeneca acknowledges receipt of this letter and is reviewing your comments. Xeneca is now in the process of hiring a consultant to develop Federal Screening Reports working under the direct supervision of CEAA, DFO and the federal review team.

Xeneca supports harmonization of the Provincial and Federal environmental assessment processes but, as currently formulated, the Class Environmental Assessment for Waterpower ("Class EA") is challenged in its ability to achieve this harmonization because of the interplay of existing provincial legislation, ***Lakes and Rivers Improvement Act*** ("LRIA") managed by the Ontario Ministry of Natural Resources which has two approvals processes (***Location Approval*** and ***Plans and Specifications Approval***) and federal agencies that have a separate post Class EA process which requires a more advanced level of design detail.

Xeneca expects these federal screening reports to be produced about 3-4 months after each provincial Class EA is issued and any Part II requests are fully considered by MOE.



Xeneca can complete the selection of consultants who would prepare the federal documents and introduce them to CEAA/DFO and federal agencies in November for The Chute.

Xeneca is sensitive to the resource constraints caused by the provincial government Feed-In-Tariff program and wish to support the Federal CEAA Review process in any way possible. Thank you for your kind consideration and please contact me directly with any comments or concerns at (416) 590 3070.

Yours very truly,

A handwritten signature in blue ink, appearing to read "Patrick W. Gillette", is written over a light blue horizontal line.

Patrick W. Gillette

cc. Amy Liu, CEAA
Caitlin Scott, NRCan
Ed DeBruyn, DFO
Haya Finan, TC
John Clarke, NRCan
Mei Ling Chen, INAC
Melani Lalani, Health Canada
Rob Dobos, EC
Sheyrl Lusk, EC
Wendy Harris, Health Canada



Fisheries and Oceans Canada
401 King Street West
Prescott, Ontario
K0E 1T0

Our file / Notre référence

July 12, 2012

Uwe Roeper,
Chief Executive Officer
Xeneca Power Development Inc.
5255 Yonge Street,
Suite 1200, Toronto, ON
M2N 6P4

Subject: Ivanhoe River: Third Falls and The Chute; Frederick House River: Wanatango Falls; Serpent River: Four Slide Falls and McCarthy Chute; Petawawa River: Big Eddy and Half-Mile; Kapuskasing River: Kapuskasing Lake Outlet, Lapinagam Rapids, Middle Township Buchan and Near North Boundary; Larder River: Larder & Raven; Blanche River: Marter Township; Wanapitei River: Allen & Struthers; Vermillion River: Wabagishik Rapids ("the Projects") - The *Canadian Environmental Assessment Act, 2012*.

Mr. Roeper,

As part of the Government's plan for Responsible Resource Development, which seeks to modernize the regulatory system for project reviews, the *Canadian Environmental Assessment Act* (S.C. 1992, c. 37) was repealed when the *Canadian Environmental Assessment Act, 2012 (CEAA 2012)* came into force.

Please be advised that environmental assessments for the hydro projects listed in the subject line are no longer required as a result of *CEAA 2012*. All other applicable legislative, regulatory and constitutional requirements still must be fulfilled.

While federal environmental assessments are no longer required in relation to the projects, *CEAA 2012* does include provisions and requirements for projects that involve federal lands (e.g. Big Eddy). Transport Canada, Fisheries and Oceans Canada, Department of National Defense and/or Aboriginal Affairs and Northern Development may contact you should we require information in order to fulfill our requirements.

The information related to the projects that was available on the Canadian Environmental Assessment Registry can be accessed through the Canadian Environmental Assessment Archives (<http://www.ceaa.gc.ca/052/index-eng.cfm>).

For further information concerning *CEAA 2012*, please refer to information on the Canadian Environmental Assessment Agency's Internet site at www.ceaa-acee.gc.ca.

Canada

If you have any questions please contact me at (613) 925-2865 ext. 117, by fax at (613) 925-2445, or by email at Rich.Rudolph@dfp-mpo.gc.ca.

Sincerely,



Rich Rudolph
Environmental Assessment Analyst
Eastern Ontario District

cc: eainfo@oel-hydrosis.ca
Lisa McDonald, Transport Canada
Michelle Perry, Department of National Defense
Christopher Morton, Aboriginal Affairs and Northern Development Canada
John Woodward, Canadian Transportation Agency
Angela Donato, Natural Resources Canada
Caitlin Scott, Natural Resources Canada
Sheryl Lusk, Environment Canada
Karen Blackbourn, Parks Canada
Kitty Ma, Health Canada
Katherine Hess, Health Canada
Melanie Lalani, Health Canada
Darla Cameron, Canadian Environmental Assessment Agency
Paula Allen, Ministry of Environment
Christine Greenaway, Ministry of Natural Resources
Joanna Samson, Ministry of Natural Resources

APPENDIX N2

**Provincial Agency
Correspondence and Minutes**

MINUTES OF PHASE 1 MEETING
Xeneca Power and Chapleau District MNR
Ivanhoe River Hydropower Development Project

Date: Wednesday, March 3, 2010 @ 13:00

Meeting Location: Teleconference Call

Prepared By: Karen Fortin

Attendees:

- MNR Chapleau District:
- Mike Bernier, Planning and Information Management Supervisor
 - Tim Mutter, District Planner
 - Sarah Vascotto, Planning and Information Management Biologist
 - Paul Bernier, Chapleau District Manager
- Natural Resources Solutions Inc.
- Rob Steele, Lead Biologist
- OEL-HydroSys Inc. (Engineering and Approvals Consultants):
- Tami Sugarman, Approvals Coordinator (TS)
- Xeneca Power
- Don Chubbuck

The following Meeting Minutes were recorded by Tami Sugarman of OEL. The notes reflect the understanding of discussions held at the meeting and the interpretations or recollections of those present.

Item	Item Description	Action by
1.0	<p>Introductions were made.</p> <p>The purpose of the meeting was to introduce the project team to the Ministry and provide and discuss the upcoming spring field season.</p> <p>It was established that the project team is aware that Xeneca does not yet have Applicant of Record status for the site and recognized that in moving forward the proponent is assuming some level of risk however that the tight timelines established in the Green Energy Act makes the 2010 spring sampling season a crucial one.</p> <p>It was also confirmed that Xeneca has yet to secure a FIT contract for the site.</p>	
2.0	<p>The Chute - Natural Resource Solutions Inc:</p> <p>Rob identified that improved aerial photography was expected within the next few weeks. Rob detailed the anticipated upstream impacts and that these would likely extend to two or three incoming tributaries and that the</p>	

	<p>backwater influence may also involve wetland habitat.</p> <p>Rob explained the close-coupled powerhouse concept, eliminating the requirements for an extended bypass reach. He outlined that it was important to understand the habitat significance of the fast water in and around the island as it may experience some changes in flow pattern, both seasonally and daily. He asked the Ministry to share some insight about the Ivanhoe River.</p> <p>Sarah responded that walleye and northern pike have been documented in the river and that there was a likelihood of other species but in the absence of available data, it was difficult to identify what these might be. Sarah specified that there was spawning habitat (cobble) at the base of the chutes that would be favoured by walleye. She indicated that there was additional walleye habitat at the upper end of the identified zone of inundation below the bridge; this structure was reported to be intact and accessible. She added that there was a potential for northern pike upstream.</p> <p>Sarah described the downstream section of the river as meandering, with an approximate depth of 8-12 feet, with very little structure along the sandy bed. She added that the esker habitat may impact bank stability. Additional assessments should include sediment, hydrological, chemical and thermal regime characterization.</p> <p>Rob described NRSI's proposed scoping approach to habitat (aquatic and terrestrial) assessment (see attached description). He indicated that agreements have been established with other MNR offices in the past that would allow for some leeway at those sites where access to specific areas may be restricted by site and seasonal conditions.</p> <p>Mike reported that MNR Chapeau flew the Ivanhoe last year (downstream to Three Falls) and that the Ministry was willing to share this footage with NRSI.</p> <p>A question from Sarah regarding benthic invertebrate studies prompted a detailed discussion as to why these were not included in NRSI's scope of work for the site. NRSI qualified that if the Ministry was requesting this type of study and was able to provide guidance on how the data obtained from this study could be applied towards the EA, it would be done. MNR chose not to offer any additional comments about benthic invertebrates at this point.</p> <p>Rob said he would be submitting a formal background data review to the MNR office and a request for a scientific collector's permit.</p>	<p>MNR to forward DVD to NRSI</p>
<p>3.0</p>	<p>MNR</p>	

	<p>The comment was made by MNR that the proponent was perhaps getting a bit ahead of the process.</p> <p>MNR was unable to provide a definitive turnaround time on issuing a permit, adding that the request for a permit triggers an MNR EA.</p> <p>A discussion as to how the district office would like to see the permit application package ensued. MNR identified that the more information on the application the better and that in addition to the application, the Ministry would require text detailing the scope of the investigation, similar to what had been provided verbally by NRSI during the meeting.</p> <p>The Ministry advised that the permit application should be submitted as soon as possible and that all requests for information be directed to Tim Mutter who will be acting as lead on the file.</p> <p>Sarah added that the initial submission filed with the MNR by Xeneca was considered to be deficient with regards to the residual flows used in the RETScreen™ analysis and that the Ministry had communicated this to the proponent. It was identified that the MNR's expectation is a residual flow value of Q80.</p> <p>Tim sought clarification as to the purpose of the proposed embankment dam on one of the tributaries because this structure was not included in the initial site application. Rob suggested that these were normally earthen structures but that he would follow up with Xeneca for clarification, he added that any field investigations would address the area.</p> <p>The MNR identified that it was in discussions with the MOE about consultation requirements for the area, adding that the Ivanhoe River held significant socio-economic importance for the towns of Foleyet, Timmins and Chapleau.</p> <p>Sarah added that beaver and muskrat trails are present as well as moose aquatic feeding areas along the shoreline of the Ivanhoe in the vicinity of the Chute but she was unable to confirm where.</p>	<p>Follow up on embankment dam at Chute – NRSI Additional Note: Xeneca consulting Engineers have indicated that this is an earthen structure designed to contain the headpond</p>
4.0	Third Falls – MNR	

	<p>Sarah reported that although she had not been to the site, it could be assumed that there was walleye in the area.</p> <p>She added that lake sturgeon was documented 17km downstream of the site on the Ivanhoe. She identified that there was a natural barrier (near the confluence of the Ivanhoe and Groundhog Rivers) that likely limits upstream migration of the fish.</p>	
5.0	Meeting was adjourned at 14:30	

June 10, 2010

Mr. Paul Bernier
District Manager
Chapleau District MNR
190 Cherry Street
Chapleau, ON P0M 1K0

Dear Mr. Bernier,

As follow-up to our May 13th letter to your office, please find enclosed information related to waterpower development under Ontario Power Authority's ("OPA") Feed in Tariff ("FIT") Contract within the Chapleau MNR District.

The projects are:

Ivanhoe: The Chute – MNR site # 4LC18
Ivanhoe: Third Falls – MNR site # 4LC17
Outlet Kapuskasing Lake – MNR site # 4LE01

The attached map on CD will provide greater clarity on the location of the projects. If required, supplementary maps are available upon request.

Further, please find attached:

- Draft Notice of Commencement's for the Waterpower Class EA
- Brief project description's
- Copies of correspondence to your office regarding our projects.

Upon review, you may be aware the OPA schedule will prove challenging to both Xeneca and the affected government ministries, as we now have less than 60 months to bring these waterpower projects to commercial operation. This concurs with an analysis of the process by the Ontario Waterpower Association, industry experts and our consultants.

To move forward in a timely manner, we request the following:

1. Notifications to be issued or reissued to the First Nation's Communities as per the MNR Policy and Procedures.



2. MNR consultation to commence at the earliest opportunity with the First Nation Communities with a focus on bringing the parties together to discuss a business relationship. Environmental and technical issues can be discussed from a process and issue perspective, but given the project(s) are at a preliminary stage, answers to these issues need to be deferred to the Class EA for Waterpower; this is aligned with the current policy.
3. Permission granted to Xeneca to begin its Business Relationship discussions at the earliest opportunity with the First Nation Communities.

Further, we request that that MNR District Office expedite the issuance of any permits from Xeneca and/or its consultants in order to conduct studies on the Project; e.g., Habitat or Archeological. We also request the **Waterpower Applicant Declaration Form** for the projects be provided as soon as possible, along with any further site information. We ask the District to outline in a timely manner, current issues that need to be addressed during the **Class Environmental Assessment for Waterpower Projects** prior to issuance of Location Approval.

We request to defer any further processes or meetings until the site is deemed viable, approved and this form is signed in a timely manner. Please note that Xeneca is prepared to meet with the District by teleconference to discuss any issues. However, we suggest this step be taken once MNR has completed its First Nation consultation and is prepared to allow Xeneca to proceed with Business-to-Business discussions with the First Nation Communities once initial inter-agency meetings have occurred.

Please contact Xeneca Power Development Inc. with any questions or concerns.

Yours truly,

A handwritten signature in black ink, appearing to read "Patrick Gillette", is written over a light blue horizontal line.

Patrick Gillette
President and COO
Xeneca Power Development LP



November 2010

Dear Government Agency or Municipal Official:

Welcome to the start-up activities on development of the Class Environmental Assessment for Waterpower Projects (Class EA) for the proposed Xeneca Power Development Inc. proposed GS project in your jurisdiction. This first step of the EA process is intended to establish the initial conceptual design, start a dialogue on regulatory approval requirements and initiate public consultation and Aboriginal engagement in the Class EA process. To this purpose, Xeneca and its consultants from OEL-HydroSys Inc. are pleased to present you with the Project Description for this proposed project.

This Project Description is provided to assist the proponent in ensuring that all aspects of the project are accounted for in enough detail to allow the public, Aboriginal communities and government agencies to provide meaningful comment throughout the Class EA process. This document attempts to delineate the 'footprint' of the project within the environmental context of the study area and initially identify features of the environment that may be affected (directly and indirectly) by the proposed project. Xeneca acknowledges that additional potential effects may be identified throughout subsequent phases of the Class EA process as input is received from all stakeholders.

In the early stages of this engagement process, a proponent-led EA coordination meeting will be undertaken with key government agencies and interested Aboriginal communities to coordinate an integrated planning process and to identify environmental concerns and diverse regulatory and management planning requirements that may be associated with the proposed project. This document is intended to assist you in preparing for this engagement process. A detailed list of the federal and provincial regulatory agencies, municipalities, and Aboriginal communities which are receiving a copy of this document directly is included within the document. We will be contacting this distribution group shortly to inquire as to their availability for participation in a Class EA Coordination meeting for this proposed small waterpower development project.

The general public and other groups are also invited to review this document. The document will be provided to these parties through postings on the Xeneca website or, upon request, by direct mail.

If you have any questions or comments in relation to the Class EA for Waterpower Projects planning process or environmental impact assessment related matters, please do not hesitate to contact the OEL-HydroSys Inc. Environmental Assessment Manager, Ms. Tami Sugarman at (613) 839-1453 ext. 229 and tsugarman@oel-hydrosys.ca or Xeneca's Manager of Environmental Studies and Assessment, Edmond Laratta, at (416) 590-9362 ext. 106 and elaratta@xeneca.com .

For questions or comments in relation to all other aspects of the development proposal please contact Xeneca's President, Mr. Patrick Gillette at pgillette@xeneca.com or Xeneca's First Nation and Aboriginal Relations Liaison, Mr. Dean Assinewe at dassinewe@xeneca.ca.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Patrick W. Gillette". The signature is fluid and cursive, with a large initial "P" and "G".

Patrick Gillette
President
Xeneca Power Development Inc.

Ref: Xeneca Project Description Cover Let Nov 2010.doc

CORRECTION NOTICE

Please note the corrections to the following Xeneca Power Hydroelectric Generating Station Projects;

AMMENDMENT TO FIRST NATIONS

Allen and Struthers (Wanapitei River)

The Sagamok First Nation was listed and identified as a Local Aboriginal Community for the Allen and Struthers Project in various sections of the Project Description document. The Sagamok First Nation was not identified as a Local Aboriginal Community by the Ministry of Natural Resources for this project and in these instances should be omitted.

- Page 2; "Distribution" "First Nations"
- Page 8, Section 1.1.5; "Parties who received the Project Description" "First Nations"
- Page 9, Table 1.1; "Government Agencies and Organizations to be Contacted" "First Nations"
- Page 24, Section 3.3.1; "Proximity to Aboriginal Reserves and Traditional Territory"

Larder and Raven (Larder River)

- The Wahgoshig First Nation has been identified by the Ministry of Natural Resources as a Local Aboriginal Community for the Larder and Raven Project. The Wahgoshig First Nation has now been included as a Local Aboriginal Community for the Larder and Raven Project.

Wabagishik Rapids (Vermilion River)

The Wahnapiatae First Nation was listed and identified as a Local Aboriginal Community for the Wabagishik Rapids Project in various sections of the Project Description document. The Wahnapiatae First Nation was not identified as a Local Aboriginal Community by the Ministry of Natural Resources for this project. The Wahnapiatae First Nation is no longer an identified Local Aboriginal Community in the Wabagishik Rapids project.

Furthermore, the Wikwemikong Unceded First Nation is now recognized as a stakeholder in this proposed undertaking.

AMMENDMENT TO ECONOMIC BENEFITS SECTION 1.1.4

There are two entries in Section 1.1.4 Economic Benefits where incorrect calculations were included:

- The sentence; “Local/Regional economic boost of **\$2.5 million per MW** about **\$12 million.**”
- The sentence; “Significant return to the people of Ontario with approximately **\$5 million per MW (\$24 million** over the 40 year lifespan of the project) paid through Gross Revenue Charges (GRC) and Provincial and Federal Income taxes.”

Totals (\$) should accurately reflect the capacity (MW) for each project. As such, the economic benefits will vary for each site. The revised totals for “**Local/regional economic boost**” and “**Significant return to the people of Ontario**” on a site specific basis are listed below.

Allen and Struthers (Wanapitei River)

- **2.8 MW capacity = \$7 million; \$14 million**

Big Eddy (Petawawa River)

- **5.3 MW capacity = \$13.3 million; \$26.5 million**

The Chute (Ivanhoe River)

- **3.6 MW capacity = \$9 million; \$18 million**

Half Mile Rapids (Petawawa River)

- **4.8 MW capacity = \$12 million, \$24 million**

Four Slide Falls (Serpent River)

- **7.3 MW capacity = \$18.3 million, \$36.5 million**

McCarthy Chute (Serpent River)

- **2 MW capacity = \$5 million, \$10 million**

Larder and Raven (Larder River)

- **1.25 MW capacity = \$3.1 million, \$6.3 million**

Wabagishik Rapids (Vermilion River)

- **3.4 MW capacity = \$8.5 million, \$17 million**

Ministry of the Environment
Northern Region
435 James Street South
Suite 331
Thunder Bay, ON P7E 6S7

Ministère de l'Environnement
Région du Nord
435 rue James sud
Bureau 331
Thunder Bay, ON P7E 6S7



Fax: (807) 475-1754
Direct Line: (807) 475-1728

August 12, 2010

Mr. Patrick Gillette
President and COO
Xeneca Power Development LP
5160 Yonge St., Suite 520
Toronto, ON
M2N 6L9

Dear Mr. Gillette:

**Re: Xeneca Power Development LP. Proposed Waterpower Projects
Third Falls (MNR site # 4LC17) and The Chute (MNR site # 4LC18)
on the Ivanhoe River**

Thank you for your letter of June 10, 2010, notifying the Ministry of the Environment's (MOE) Timmins District office of Xeneca Power Development's intent to initiate a Class Environmental Assessment (EA) project for the above-noted proposed waterpower projects. You have indicated that the proposed facilities will have a generation capacity of less than 200MW and will be situated on an unmanaged waterway. Projects of this nature require approval under the Ontario *Environmental Assessment Act* (EAA). In order to obtain the authority for the project to proceed, Xeneca Power Development LP (Xeneca) must plan for the project in accordance with the process outlined in the *Class Environmental Assessment for Waterpower Projects* (Ontario Waterpower Association, October, 2008).

As the Regional EA Coordinator responsible for the area where this project is located, I will serve as the primary MOE contact for the above-noted project. This means that, as stipulated in the Waterpower Class EA, I am a mandatory contact for all required notices which include the Notice of Commencement and Notice of Completion. For projects situated on an unmanaged waterway, there is an additional mandatory notice, the Notice of Inspection (Section 4.4.2 Page 41 Waterpower Class EA). In addition, I request that I be provided with any other notices and relevant information (i.e. technical studies related to MOE's mandate, information updates) issued during the environmental assessment process for the proposed facility, including a copy of the Statement of Completion upon completion of the Waterpower Class EA process. (Note that although the Class EA identifies the MOE Regional EA Coordinator at the appropriate Regional Office of the MOE as the mandatory point of contact, as an additional measure you may also wish to include the MOE Timmins District office and other MOE contacts on your circulation lists.)

As the MOE's primary contact for this project, I have reviewed the information provided with your letter of June 10, 2010, and offer the following guidance regarding the requirements of the Class Environmental Assessment for Waterpower Projects.

Applicant of Record Status

We note that at this time Xeneca does not hold Applicant of Record Status from the Ontario Ministry of Natural Resources (MNR) for these sites. It is outlined in the Waterpower Class EA that prior to commencing the Class EA process, projects on provincial Crown land are expected to have satisfied appropriate requirements for the MNR's Waterpower Site Release and Development Review process. Applicant of Record Status is provided at the conclusion of this process. Part of the intent of this as a first step is to help inform the Class EA process and ensure that proponents are able to make a fully informed decision on whether they wish to proceed with the Class EA and seek other necessary approvals. It is also the point during which MNR, in collaboration with other agencies, compiles a list of Aboriginal Communities with which proponents need to consult throughout the planning process, including through the Waterpower Class EA process. By proceeding with the Waterpower Class EA for these projects before completing MNR's site release process, Xeneca takes on the added risks associated with not having the same information as would be available if Applicant of Record status had been obtained initially. The information and consultation expectations of the Waterpower Class EA process remain the same regardless of whether or not the Applicant of Record status is obtained before initiation of the environmental assessment process.

Status of Waterway (Managed/Unmanaged)

We note that your letter of June 10, 2010 included a draft Notice of Commencement for the Ivanhoe River Waterpower project. This draft notice indicates that the project is considered to be on an unmanaged waterway. We recommend that this classification be discussed and confirmed with MNR and MOE, with reference to the definitions section of the Waterpower Class EA. Please note that if any portion of the anticipated zone of influence for this project falls within an unmanaged waterway, we would strongly recommend that the Notice of Commencement identify the waterway as unmanaged, and that the requirements of the Class EA process for unmanaged waterways be met.

Notice of Commencement

Our review of the draft Notice of Commencement provided with your letter indicates that the notice does not appear to meet the minimum content requirements for a Notice of Commencement, as outlined in the Waterpower Class EA. Detailed comments regarding the draft notice are attached to this letter. We strongly recommend that, prior to issuing the formal Notice of Commencement, Xeneca review the draft notice and revise it, as required, to ensure that it meets the requirements of the Class EA process. Note that the content of Notices of Commencement and other required notices/reports, together with various aspects of the process followed, may be considered in the event that Part II Order requests are received regarding this project. Once a final Notice of Commencement has been published/issued, please provide a copy of the final notice,

along with confirmation of the date(s) published and publication(s) in which it appeared. If the Notice of Commencement for this project has already been published in the form attached to the letter of June 10, 2010, the Notice should be revised and republished/re-issued to ensure it meets minimum content requirements.

Coordination Meeting with Agencies

MOE strongly recommends Xeneca initiate a coordination meeting, as described on page 32 of the Waterpower Class EA. This meeting should occur before the Notice of Commencement is released, as it is an important step that can assist agencies in understanding your project. In advance of this meeting, more detailed information such as that outlined in Section 4.1.1 of the Waterpower Class EA (page 31), should be provided to relevant agencies. If it has been determined that other Class EAs or screenings apply to this project, and if the proponent intends to combine processes and issue only one Notice of Commencement, the agencies should be advised of this prior to the initial coordination meeting. It is anticipated that affected agencies, including the MOE, would be better able to assist in the identification of potential issues following their receipt and evaluation of this more detailed information.

Environmental Report

In accordance with the Waterpower Class EA, an Environmental Report must be prepared for proposed projects. In addition, for projects on unmanaged waterways, provision of a draft Environmental Report for review at the time of the Notice of Inspection is required. The Environmental Report must be reflective of the relative complexity of the project, as informed through the evaluation and consultation processes. Section 4.0 (pages 29-43) of the Waterpower Class EA describes the environmental assessment planning process. Also, the Environmental Report must contain the information as outlined in Section 4.4 (pages 40-41), including the assessment of significance of effects as outlined in Section 4.3.1. Sections 6.0 and 7.0 (pages 61-69), discuss public, agency, and Aboriginal Community consultation considerations.

Aboriginal Engagement/Involvement

At Applicant of Record stage, the Ministry of Natural Resources currently provides proponents who hold a FIT contract with a list of Aboriginal Communities that should be consulted regarding proposed projects. That list of Aboriginal Communities is developed in consultation with MOE and should be utilized during consultation efforts to satisfy the requirements of the Waterpower Class EA process. Also, the Waterpower Class EA document provides information that may be of assistance in developing an engagement approach specific to Aboriginal Communities. If for some reason you do not have a list of Aboriginal Communities provided through the Applicant of Record process, then MOE recommends that you refer to the Aboriginal Information Resources listed on our website (<http://www.ene.gov.on.ca/en/eaab/aboriginal-resources.php>). In this situation, agencies listed on the website should be contacted to assist you in determining which Aboriginal Communities may be affected by, or have an interest in your project. MOE recommends that you provide notification directly to the Aboriginal Communities who may be affected by, or have an interest in, your project and provide them with an opportunity to participate as early as possible in the environmental assessment process.

Draft Environmental Report and Notice of Completion

Once the final Environmental Report is complete, a Notice of Completion must be issued to all who have expressed an interest in the project, as well as to those on the distribution list for the Notice of Commencement (including newspapers or other publications). Although not a requirement of the process, MOE encourages that a draft of the Environmental Report be provided to relevant agencies and interested parties for comment before issuance of the Notice of Completion, because addressing outstanding concerns prior to the mandatory 30 day comment period can reduce the risk of receiving Part II Order requests. The final Environmental Report must be made available for public and agency review for a period of at least 30 calendar days, during which documentation, including technical reports and other supporting information, may be reviewed and comments/input submitted to Xeneca.

Consultation/Issue Resolution

Xeneca is reminded that when concerns are raised during the public/agency comment period, the concerned party should be consulted in an attempt to resolve the concerns. Discussions to this end should proceed for an appropriate period of time, even if this means the 30-day review period is exceeded. The Director of Environmental Assessment and Approvals Branch should be notified of any extensions to the consultation period. Xeneca must also advise the concerned party that if such discussions are unsuccessful at resolving the concerns, they can submit an elevation request, if they have not already done so, to the Director of the Environmental Assessment and Approvals Branch, Ministry of the Environment, within a further seven calendar days following the end of discussions (see page 74 of the Waterpower Class EA for further details).

Other Required Permits and Approvals

Completion of the Waterpower Class EA under the EAA does not relieve proponents from the responsibility to obtain any necessary approvals or permits required under other legislation for the project. Xeneca is reminded that the project may not receive approvals under other provincial legislation or commence construction until it has successfully satisfied its obligations under the EAA.

Agency Consultation and Federal Triggers for Waterpower Projects

At this time, Xeneca is directed to Section 4.1.2 and Appendix E of the Waterpower Class EA for information on provincial and federal agencies that should be contacted, and for triggers of the Canadian Environmental Assessment Act. If the federal environmental assessment process is triggered, there is an opportunity to coordinate the federal and provincial environmental assessment processes as discussed in Section 5.2 of the Waterpower Class EA. MOE also recommends that Xeneca contact the Canadian Environmental Assessment Agency as soon as possible for assistance in evaluation of the application of the Canadian Environmental Assessment Act to the proposed undertaking, and to determine the scope of any assessment that may be required for the Federal EA process. The Canadian Environmental Assessment Agency may be contacted at (416) 952-1576.

Xeneca is reminded that the Ministry of Natural Resources is a mandatory contact for hydroelectric projects. The Waterpower Class EA process should be coordinated with the Ministry of Natural Resources' Lakes and Rivers Improvement Act provisions. Please refer to Section 5.3.1 of the Waterpower Class EA for guidance on coordinating these processes.

I trust that the above information will be of some assistance as you proceed with the Class EA process. Please feel free to contact me at any time if you have any questions regarding the MOE's mandate, or the environmental assessment process under Class Environmental Assessment for Waterpower Projects. I look forward to further discussing this project with you at the anticipated coordination meeting for this proposal.

Yours truly,



Ellen Cramm, M.C.I.P., R.P.P.
Environmental Planner/EA Coordinator

attach.

cc: Vanessa Enskaitis, Public Affairs Liaison, Xeneca Power Development Inc
Samantha Leavitt, Stakeholder Relations Representative, Xeneca Power Development Inc.
Patrick Morash, MOE
Carroll Leith, MOE
Daryl Firlotte, MOE
Tim Mutter, MNR
Chris Quirke, MEI

**Xeneca Power Development LP. Proposed Waterpower Projects
Third Falls (MNR site # 4LC17) and The Chute (MNR site # 4LC18) on the Ivanhoe River
Draft Notice of Commencement – MOE Comments**

The following comments pertain to the Draft Notice of Commencement for the above-noted Waterpower projects, as attached to the letter of June 10, 2010, from Xeneca Power Development Inc.

To ensure that the Notice meets content requirements as outlined in the Waterpower Class EA, the draft Notice of Commencement should be revised as indicated below. If the Notice of Commencement has already been published in the form attached to the letter of June 10, 2010, the Notice should be revised and republished/re-issued.

Required changes:

- include project names in the Notice heading;
- revise map to identify the location of each of the two projects by name;
- revise map to identify the anticipated zone of influence for the projects;
- confirm, through consultation with MNR and MOE, whether the project is proposed on a managed or unmanaged waterway, and revise notice if required. (Note that if any portion of the anticipated zone of influence of the project is situated on an unmanaged waterway, then the project should meet the requirements of the Class EA for a new project on an unmanaged waterway.);
- ensure that the project description included in the Notice of Commencement accurately reflects all components of each project. (We note that additional information provided with your letter of June 10, 2010 indicates that a new access road will be required for each project, yet this has not been identified in the draft project description. Information included with your letter also identifies a Transformer Station required for each project. If a new or existing Transformer Station is required then this should be included in the Notice.)
- include information regarding the tentative project schedule (We note that the proposed project phasing calls for environmental assessment/approvals in 2010-2011, detailed design in 2011-2012, construction in 2013 – 2014, and operation in 2015. This information could be summarized in the Notice of Commencement.); and
- in addition to an address, fax and telephone numbers, and e-mail address, a contact name must be provided.

The following additional changes to the draft Notice of Commencement would aid in advancing the principles of clarity and transparency, as expressed in the Class EA, and would assist members of the public in understanding the proposed projects, determining if they have an interest in the proposal, and more effectively participating in the process.

Suggested changes:

- revise map to indicate the general route of the proposed transmission lines;
- revise map to add a scale and North arrow;
- identify the anticipated length and capacity of each proposed transmission line (e.g. 4.0 km, 27.6 kV; and 10 km, 115 kV);
- identify the installed capacity of each proposed project separately;

-
- spell out “Distribution Station” (instead of using “DS”) when referring to the Weston Lake Distribution Station;
 - along with the reference to the Ontario Waterpower Association’s *Class Environmental Assessment for Waterpower Projects* (2008) in the second paragraph, include a link to this document on the Ontario Waterpower Association’s website;
 - as suggested in the Class EA (Appendix D – Sample Notification Template, last paragraph), add wording to indicate that, if requested, comments and associated personal information included in submissions will become part of the public record and may be released to others; and
 - include reference to the Lakes and Rivers Improvement Act and any other statutes for which this Notice of Commencement is intended to fulfil notification requirements. (Please note that, in order for this Notice of Commencement to meet notification requirements of specific statutes, the Notice must specifically identify those statutes and must also meet all of their information requirements. The Notice of Commencement, in its current form, would only address provincial Environmental Assessment Act (EAA) and Canadian Environmental Assessment Act (CEAA) requirements if all information requirements for those respective statutes are met (as noted above, the draft notice does not meet provincial requirements). Xeneca may wish to identify additional statutes and include further information to ensure that the Notice meets the requirements of other pieces of legislation. Similarly, if it is determined that other Class EAs or screenings (such as the Class EA for MNR Resource Stewardship and Facility Development Projects) apply to these projects, and if the proponent intends to combine processes and issue only one Notice of Commencement, we would strongly advise that this be indicated in the Notice.

Mutter, Tim (MNR)

From: Mutter, Tim (MNR)
Sent: Tuesday, October 19, 2010 2:03 PM
To: 'Patrick Gillette'
Cc: Bernier, Paul (MNR); Guthrie, Bill (MNR)
Subject: Ivanhoe SIP - EMAIL 1 OF 2
Importance: High
Attachments: SIP - chutes.rtf; Site Description Package The Chutes 6Oct2010.pdf; Site Description Package Overview Final 7Oct2010.pdf

RECEIVED

OCT 26 2010

Patrick,

Attached are the SIPs for the Chutes and Third Falls sites. These SIPs are basically complete, but additional information may be added as we move forward if anything was inadvertently overlooked.

Xeneca will receive both hard and electronic copies. A summary of the package contents is as follows:

- Hard copy (to be sent by Purolator today)
 - 3 wall maps; one of the Chutes site, one of the Third Falls site and one illustrating an overview of the Ivanhoe River and the location of the Ivanhoe Dam in relation to the candidate sites;
 - Copies of the Site Information Package document for both the Chutes and Third Falls sites;
 - 2 DVDs; the first containing photographs and aerial footage of a flight of the Ivanhoe River taken in early November 2009 AND the second containing the "supplemental information folder" referred to in the Waterpower Site Information Packages for both the Chutes and Third Falls sites.
- Electronic (info attached)
 - .rtf copies of the Waterpower Site Information Packages for both the Chutes and Third Falls sites;
 - .pdf versions of the 3 aforementioned wall maps

Please note that this email contains the "electronic" components mentioned above. The hard copy information will be sent out via Purolator today. This is email 1 of 2. The next email (2 of 2) will contain the remaining electronic information for Third Falls (SIP document + map).

We trust that this meets your expectations and we look forward to future detailed discussions with Xeneca. Please let me know if you have any questions or if you have any further immediate information needs.

Thanks,

Tim Mutter
 District Planner
 Chapleau District
 Ministry of Natural Resources
 190 Cherry St.
 Chapleau, Ont. P0M 1K0

Tel. 705-864-3139 x239

20/10/2010

**Site Information Package Meeting 26/01/2011 – Xeneca Chutes and
Third Falls PWPF Chapleau District OMNR Conference Room 9:00am
-2:30pm**

Attendees:

Paul Bernier, OMNR Chapleau District Manager **(PB)**
Tim Mutter, OMNR Chapleau District Planner, **(TM)**
Bill Guthrie, OMNR Chapleau District PIM Supervisor **(BG)**
Nick Orton, OMNR Chapleau District Area Biologist **(NO)**
Kent Stainton, OMNR Chapleau District Land Use Planner **(KS)**
Jeff Saunders, OMNR-AFFM Fire Operations Supervisor **(JSa)**
Susan Lindquist, OMNR Chapleau District Resource Liaison Specialist **(SL)**
Dean Assinewe – Resource Liaison Xeneca **(DA)**
Arnold Chan – Legal Affairs Xeneca **(AC)**
Mark Holmes – VP Xeneca **(MH)**
Pat Cantin – OMNR NER Engineering Technologist **(PC)**
Justin Standeven – OMNR Timmins District Planner **(JS)**
Patrick Gillette – President Xeneca (attended via teleconference) **(PG)**

1. Introductions

9:15 PB – Welcome and Introductions

2. 9:15 – Agenda Review/ Overview of the MNR Process for Site Release and Site Information Meeting -TM.

TM – Explained that the purpose of the meeting was to discuss the content of the site information packages, for both sites on the Ivanhoe River, address any questions or concerns with the information, and provide direction on Aboriginal business to business discussions. TM further explained that this was not a meeting to discuss EA issues per se, but some components of the EA would be mentioned during this meeting because certain staff were available to address a few items, including: fire management (JSa), LRIA (PC), the Mattagami Water Management Plan (JS) and amendments to the WMP being incorporated into the Waterpower Class EA.

3. 9:20am Xeneca FIT Contracts on the Ivanhoe River (The Chute and Third Falls) - AC

AC – Mentioned that the open houses in Foleyet for the Chutes (3.6 Megawatt potential) was held January 13 and Third Falls (5.1 Megawatt potential) has been scheduled and will take place January 27th.

PG – Gave an overview of the projects and how the FIT process works. They have 60 months to bring the projects online from the time the contract was issued. That puts the

in-service date somewhere around April 2015. They will need to order equipment and materials at least 24 months in advance of the targeted operation date. Construction will take an additional 16 months. As such, they would like to complete their EA work as quickly as possible. This may require issuing the notice of completion earlier than expected and addressing some environmental issues during and/or after the EA stage.

FIT contracts are based on an estimate of power potential and could possibly be reduced by 25% (power potential estimates are maximums). PG expressed concerns with getting projects underway within the 60 month timeframes. Road construction and transmission corridor construction will also take time. Effectively, construction window is limited due to work-in-water timing restrictions and freeze-up.

AC – Mentioned fiscal penalties for not meeting 5-year timeline from OPA FIT contract (*Note: On Feb 9th, 2011, OPA announced the option of FIT COD date extensions by one year. Xeneca could consider this as it may provide additional time to address EA considerations, particularly aquatic baseline information*)

PG – Facilities need to be running by 2015 without penalties and potential voiding of contracts.

NO – April 1st to June 15th is the non-working window for warm water fisheries in the district. The timing restriction is for a typical spring. During late springs, the timing restriction extends to June 30th. Cold water timing restrictions may apply depending on fish community presence. This will need to be determined based on MNR's review of the spring field work results.

PG – No fall spawning species, according to reports. Time will be needed for permits from Federal and MOE (minimum 12 month process) with further study work being conducted. Main issues surrounding land tenure with the number of permits involved and the engineering review from Northeast Region (NER). PG mentioned getting the EA done as quickly as possible, but being thorough. Speculated the greatest work issues would be permits surrounding roads, transmission corridor (easements) involving work on behalf of the Ontario Survey General and NER engineering reviewing conceptual design and completed drawings of facilities (up to 30 drawings). PG was not sure about NER Engineering workload and turnaround timelines.

TM – Will Xeneca move forward having only collected one field season of data?

PG – This will be evaluated on site-by-site basis and will seek any additional studies if necessary. PG mentioned they have retained consultants and that they are conducting the field work and thoroughly reviewing the data collected to determine if it is sufficient. If not, Xeneca is potentially willing to conduct additional studies as EA process is taking place, or possibly after. Any additional studies or information will be added to their EA documentation and may result in changes to the project.

TM – Directed consultants to have a detailed conversation with MNR district biologists. As part of the EA process, MNR needs to complete a comprehensive review of the 2010 spring data collection work to determine what methodology was used, what was found, and make an assessment as to the completeness of the data. Depending on what was found and how/when the work was conducted, there is potential that additional in-field work will be required.

PG – Both project descriptions have been submitted and given to FN communities

AC – Clarified that Project Description for Third Falls has yet to be submitted and will be coming to MNR soon. *Note: The draft project description was received by Chapleau MNR shortly after the meeting.*

PG – Xeneca is committed to timelines of FIT contracts and mentioned LRIA approvals being approximately one year to issue. Reiterated additional studies may be conducted during and following completion of the EA. Mitigation may be applied after completion of EA. Explained that due to timelines Xeneca may not be able to address all information requirements prior to issuance of “Notice of Completion” of their EA. Mentioned MNR biologists contact Edmond (Ed) Laratta and Don Chubbuck. Rob Steele (NRSI) may also be contacted regarding methodology and results of field work.

MH – Mentioned Kirkland Lake District creating a technical committee to address information. A similar approach might work in Chapleau District as well.

TM – Mentioned drought conditions on Ivanhoe this summer and that this was an atypical season with respect to flows, temperatures, timing, etc. - and that the spring field work may not have been able to properly characterize the baseline conditions within the river.

PG – Acknowledged atypical year and that this season might be similar. Xeneca may commit to conducting additional studies during and/or after the EA and a may result in a potential addendum to the EA.

AC – Acknowledged quick issuance spring 2010 scientific collector’s permits by Chapleau district

TM – Will additional permits be needed this field season?

AC – Directed TM to contact Ed, Don and Rob Steele (NRSI) for specifics.

ACTION 01 – TM/Bio to contact Ed, Don and Rob for permit information on upcoming field season. Biologists need to review the results of 2010 study and will make an assessment with respect to additional info needs.

PG – Stated the importance of collaborating with the district. PG did not commit to holding off on issuing notice of completion until requirements of EA fulfilled; if new data comes forward, alterations to the EA may be made on an on-going basis.

TM – Reiterated that Chapleau MNR's position is that all pertinent baseline conditions need to be well documented, all potential impacts understood, and appropriate mitigation strategies developed to address negative impacts prior to the issuance of 'Notice of Completion' under the Waterpower Class EA.

NO – When will field work results be made available to MNR?

PG – Results should be in and will be made available during interagency meeting BUT offered to issue results prior to meeting directly to the district.

ACTION02 – **District Biologists to contact Rob Steele for results from the field work.**

TM – MNR will review both project descriptions once we have Third Falls project description and provide comments

PG – Offered to be the direct contact for comments, if necessary

SL – FN communities may be apprehensive about moving forward without having a complete picture of the effects to the ecosystem

PG – 1) Xeneca issued project descriptions directly to communities and invites them to the table; 2) Xeneca created separate information sheets for easy understanding and having Dean convey messages; 3) Using Waterpower Class EA for B2B discussions to determine due diligence and mentioned not fully understanding risks until the permits and approvals stage. PG mentioned encouraging communities to use \$20,000 to conduct internal review of EA information, socioeconomics, etc via a non-binding MOU and/or conduct archaeological assessments; Hopes comments result from Project Description review so questions can be addressed and dialogue initiated.

SL – Stated that if community is not confident in the process, they will not be satisfied with end product

DA – Mentioned process with mining industry and how consultation often occurs after the fact, whereas with hydropower, proponent is up front about issues and familiar with process

PG – Operation planning for both projects began in Nov-Dec with a draft operation plan being brought forward. Mentioned operation of facility (Chutes) is likely run of river with modified peaking, with no area to store water. Peaking incentives are issued to proponent regardless of peaking or not – it is based on time. Mentioned with respect to

FN, Xeneca has been consulting prior to the process and the main challenge lies in communicating with FN to build common understanding.

TM – Provided overview of the waterpower site release policy/procedure and next steps in the process. Identified that both Ivanhoe River proposed waterpower locations have been removed from staking under the Mining Act and recommended that Xeneca review the area that has been removed (as per the maps appended to the SIP) to confirm area withdrawn is sufficient to avoid complications with mining tenure. A relatively large area was removed; however, MNR did not fully know the extent of proposed development and/or flooding at the time.

PG – AC will confirm footprint of project and area of inundation. If needed, MNR will contact MNDMF for additional removal.

TM – Recommended Xeneca contact MNDMF regarding potential mining claims surrounding transmission corridor and/or other proposed development areas.

DA – Asked if additional communities may express interest in becoming “identified”

SL – None at the moment; however, SL mentioned the Métis are having issues with government interpretation of “Community”

PB – Mentioned TTFN and their involvement in the projects.

SL – TTFN has revised their territorial map so that Third Falls is no longer considered part of their territory. Xeneca indicated they are already meeting with TTFN regarding other water power projects.

ACTION03 – **Xeneca will continue to discuss the Third Falls site with TTFN in accordance with the community’s level of interest for this site.**

PG – Every community has been issued a Project Description package and Xeneca will send a follow-up letter soliciting feedback, questions and asking if communities want to be part of interagency meeting.

SL - Additional Aboriginal communities to be included in the public consultation of the Class EA: Chapleau Métis (MNO affiliated), Michipicoten FN, Moose Cree FN. These communities must have the opportunity to be kept informed of the project and may require additional information.

ACTION04 – **Xeneca to ensure these communities are added to the ‘public’ mail list for these project sites**

4. 10:30am – 10:45am – Break

5. 10:45am - Status of Xeneca’s Activities on the Ivanhoe - PG

PG - Essentially covered in previous discussions

TM – How did Xeneca determine the locations for conducting public consultation open houses? Why did Xeneca decide not to hold an open-house in the community of Chapleau? Recommended that Xeneca consult with Chapleau MNR with respect to public consultation strategies and appropriate venues.

MH – Modelled after REA template.

6. 10:47am SIP Review

TM – No known registered Cultural-heritage values within vicinity of both sites. A check with the Ministry of Culture has been completed. There are no known local CH resources. However, may be potential for the disturbance of unidentified CH sites/artefacts and that appropriate investigation is warranted. Suggest close consultation with Ministry of Culture.

PG – Stage 1 reports are complete and will be distributed to FN communities. Stage 2 and Stage 3 work will be performed spring 2011.

TM – Most forest access road are assumed by the SFL holder (maintenance, etc.) and Xeneca is advised to deal with EACOM and Tembec concerning roads, crossings, bridges, etc. An MOU may be required regarding use/maintenance agreements.

TM – Mining tenure areas have been withdrawn as discussed; however, there is an existing mining claim at Third Falls. Suggest consultation with MNDMF and the claim holder to address impacts on mineral rights.

TM – Aggregate pits: Two Category 9 pits are in the vicinity of the Chutes site – as per the SIP map. Advised Xeneca to consider their aggregate needs and ensure that they apply for an aggregate permit if they propose to use Crown resources.

TM – Forestry: SFL will likely want to secure timber that will be harvested to accommodate the project (inundation, transmission corridor, roads, clearings, landings, etc). Need to consult with MNR foresters and SFL companies directly.

PC – Advised Xeneca that all trees impacted by inundation need to be removed prior to flooding, as they are a source of methyl mercury and navigation hazard.

TM – Protected Areas: Flooding and downstream impacts to Conservation Reserve (Northern Clay Belt Forest Complex) adjacent to Third Falls/Groundhog River Provincial Park. Maintaining ecological integrity is the key component of the PPCR Act. **No flooding rights will be issued for permanent or periodic flooding within the CR or park.**

TM – Existing Water Management Plan: Part of Mattagami WMP; therefore, an amendment to the WMP will be required with associated consultation.

DA – Are FN included in the WMP process?

TM – Yes

JS – Notification and consultation is required.

TM – MNR is not prepared to alter flows from Ivanhoe Lake Dam (MNR controlled) to augment flows for downstream power generation.

PG – Do not want to augment power and Xeneca is well aware of MNR's responsibilities associated with the Ivanhoe Dam. PG asked if Xeneca could be made aware when MNR was releasing water from Ivanhoe Dam, in a friendly, cooperative, notice.

PG – Once operation plan is devised, Xeneca would like to meet with MNR to discuss and work together as 'two players' on the WMP in an attempt to assist Xeneca with flows and a coordinated approach to water release.

PC – Water Survey of Canada Station and a lot of historical information can be attained from the Ivanhoe Dam. MNR is currently maintaining the rating curve for the Ivanhoe Dam.

PG – Mercury testing has begun, so a baseline can be established

TM – Flow regime: District MNR position is that residual flows equal to the seasonal Q80 shall be implemented to reasonably ensure the maintenance of the aquatic ecosystem integrity for the Ivanhoe River.

PG – Xeneca is aware of Q80 requirements, which prevent peaking from occurring. Xeneca will supply compensatory flow required to maintain the health of the ecosystem and further discussions regarding flow requirements will occur between Xeneca and MNR staff in the future.

KS – Chapleau district signed an MOU with the Institute for Watershed Science at Trent University to address information gaps (flows, levels, cross-sectional profile of the river) at the Chutes and Third Falls sites. The information collected will be used to prorate flows back to Water Survey of Canada gauges for a more accurate picture of the flow regime at the sites. A report will be made available to Xeneca in the near future.

ACTION05 – **KS to provide Xeneca with hydro monitoring report as soon as the report is finalized.**

PG – Overall, Xeneca is very happy with the SIP. Acknowledged Xeneca is aware of what they need to do and stated that the package is a good starting point. PG also

mentioned being in contact with some individuals in Peterborough regarding flow regime specifics and the Q80 requirement.

PC – Inquired who at head office was contacted regarding Q80 requirement?

PG – Mentioned Dave Thompson (a consultant from KBM Consultants) who worked for OPG in the past. Dave Thompson was speaking to MNR staff; however, it was several years ago and PG would need to go back and confirm with Dave Thompson

7. 11:30 am Water Management Planning (Mattagami WMP) – JS

JS - Proponent needs to make public aware of WMP amendment and district needs to be content with ecosystem-based water level and flow objectives. It is expected that Xeneca will meet the intent of Water Management Planning through the preparation of their Environmental Report through the EA process and MNR's subsequent review and approval of the project under LRIA. MNR's expectation is that proponents will provide sufficient information to inform the preparation of a management plan. If this occurs a separate Water Management Planning process will not be needed.

PG – Is there a body or committee that meets with respect to WMPs?

JS – Mattagami WMP Standing Advisory Committee (SAC) meets three times a year and members have expressed concern with no notices to SAC but finding notices of commencement in media.

ACTION06 - JS to provide Xeneca with WMP schedule (or notice of meetings)

ACTION07 - Xeneca will provide SAC members with Project Description

8. 11:35 am CR Downstream and IDF and flooding rights – PC

PC – Concerns surrounding IDF modelling and selection criteria. Consultants are aware of new LRIA technical guidelines and as guidelines are, all projects will follow CURRENT LRIA technical guidelines (1977) in association with the 1999 Ontario Dam Safety Guidelines. PC advised against modelling under new guidelines, as they are not approved. Guidelines will not come into effect AT LEAST for another 2-3 years.

ACTION08 - PG to make consultants aware of using current LRIA technical guidelines when modelling IDF.

PG – Proposed the facility at the Chutes would be run of river and the Third Falls facility operations had yet to be determined (only conceptual designs at this point in time).

PC – Emphasised the potential for downstream effects (flooding and accompanying erosion) of passing altered flows and IDF at the Chutes/Third Falls site

PG – Proposed using a low dam structure and rubber (2 or 3 Obermeyers) control structures that could be inflated and deflated depending on conditions.

PC – Dam must be able to pass IDF; must conduct pre and post dam development flood modelling and LRIA approval is subject to the modelling

TM – Questioned how erosion (pre and post facility development) concerns would be addressed

PG – Costs of modelling at Third Falls may default the facility to run of river.

PC – Modelling must consider pulsing and upstream/downstream substrate conditions and potential erosion concerns

PG – Will advise consultants of the aforementioned concerns

ACTION09 – PG to advise consultants of MNR concerns around potential downstream flooding and erosion issues at Chutes and Third Falls site.

9. 12:00pm – Lunch

10. 12:45pm – Aboriginal Engagement SL

SL- Spoke to the initiation of the 180-day business-to-business discussions and provided an overview of the associated documentation of discussions (SL/TM would be contacts at District, AC at Xeneca). SL recommended frequent updates regarding discussions. EA concerns should be documented as well during this time (e.g. Identification of impact on specific rights, concerns, interests and identification of possible mitigation options). SL provided EA documentation template to Xeneca containing tables addressing efforts undertaken for B2B and EA negotiations, a column for information shared, mitigation options proposed and a section for community reactions to mitigation measures. MNR does not have to be privy to the details of B2B negotiations.

PB – Emphasized importance of receiving the documentation in a timely manner.

SL – MNR has not been asked to be part of the B2B discussions; however, the district would entertain attending meetings if so desired/appropriate by the parties.

DA – Asked if communities (local and identified) were made aware of each other's 'local' and 'identified' statuses.

SL – Yes

PB – Mentioned concern with EA being conducted prior to site release, MNO inability to be deemed 'identified community' and the construction of concrete dams were issues frequently mentioned at FN initial engagement meetings

SL – Concerning the EA, multiple processes are being conducted concurrently (LRIA approval, work permits) yet no communities (with the exception of TTFN) have a formalized consultation protocol to document EA project consultation and duty to consult (aboriginal consultation). SL recommended a coordinated program to address all obligations simultaneously.

MH – There is planning for a coordinated working group underway.

AC – Xeneca is aware of Crown's obligation to consult as well as the company's obligation to community relationships with these projects.

PG – Receptive to consultation template. Noted that with Kapuskasing projects, Xeneca has found it difficult to organize/log comments in a workable manner. Under the GEA, the minister (MEI) is responsible for the benefits to the community. The OPA FIT program provides up to \$500,000 to communities for B2B discussions. Xeneca is encouraging a non-binding MOU (\$20,000) with communities to address components of the EA. PG wants to help communities understand the EA, sign the MOU and explore benefit sharing, yet a general protocol for how the B2B period should be conducted will not be available. PG emphasized openness regarding ministry requirements surrounding consultation documentation.

MH – Template MNR has provided is very similar to template being prepared by Xeneca.

PG – There will be ample time during the negotiations for communities to provide input on process.

SL – Is the template project or river system specific?

DA – Started with Kapuskasing River projects and DA intends on updating the database/log ASAP and communications correspondence is being documented along the way.

SL – Mentioned that community concerns extend beyond individual projects to entire river systems.

MH – Database is constructed in Microsoft Excel and will be user-friendly. 100km radius for determining consultation and also resembles INAC consultation requirements.

SL – What kind of consultation engagement plan does Xeneca have prepared?

DA – Slowly receiving Site Information Packages and figuring out community information (for Kapuskasing River sites). Engagement plan to be determined in the near future.

SL – The complexity of these projects demands a coordinated approach to consultation.

ACTION10 - SL to provide Xeneca with some advice/guidance on what kind of information would be useful within an Interagency/Multi-process Aboriginal Consultation planning template

DA – Coming up with a universal template for FN Communities is difficult as communities differ in how they operate and community needs.

SL – There is still a need for a basic understanding by all of the agencies involved regarding the coordination of the planning timeframes, and an understanding of the engagement efforts in order for all agencies/proponent to be involved as necessary.

MH – Xeneca is in the final stages of a general consultation template with FN communities being a large component.

11. 1:30pm Forest Fire Prevention Act Interim Document - JSa

ACTION11 - TM to distribute the FFPA Interim document to Xeneca

JSa – land clearing and management of debris recommended to be performed in Fall-early winter. JSa also mentioned heavy equipment operations and clearing of land needs to be in compliance with Modified Operations document (timing restrictions on operations, training for workers (S102 standard) that are allowed to work longer as they are trained to handle hazards. Advised Xeneca to have construction companies aware of daily fire conditions by contacting fire conditions hotline, devise a fire preventions plan, FireSmart Manual for structures after construction. JSa to be contact regarding Fire Management for Xeneca projects in the district.

12. 1:45pm – Declaration Signed

13. 1:45pm - Closing Remarks

TM- mentioned the potential need to consider alternatives with respect to the routing of the transmission corridors. The current submission only shows one option. Some risk in moving forward showing only 1 potential route.

AC – If problems arise in values check, alternatives will be considered at that time.

TM – Mentioned need to schedule Interagency EA meeting.

ACTION12 – Xeneca to schedule Interagency EA meeting and inform Chapleau District of meeting date and time.

PC- What kind of information will be presented at the Third Falls open house in Foleyet?

MH – General information, Green Energy Act overview, Waterpower Class EA, Project Description overview, similar to the information provided at the Chutes Open House

PC – Did Xeneca receive initial comments from NER Engineering regarding site release application? PC Advised Xeneca to provide the most up-to-date information on projects when submitting for review in the future.

PG – Project metrics were modified based on suggestions and PG encouraged dissemination of hydro monitoring information. Struggling with cost per MWH depending on the project.

PB – Final remarks and looking forward to working with Xeneca in the future.

14. 1:55pm – Meeting Adjourned

ACTION ITEMS

ACTION 01 – TM/Bio to contact Ed, Don and Rob for permit information on upcoming field season. Biologists need to review the results of 2010 study and will make an assessment with respect to additional info needs (p.3)

ACTION02 – District Bios to contact Rob Steele for results from the field work (p.3)

ACTION03 – Xeneca will continue to discuss the Third Falls site with TTFN in accordance with the community's level of interest for this site. (p.5)

ACTION04 – Xeneca to ensure these communities are added to the 'public' mail list for these project sites (p.5)

ACTION05 – KS to provide Xeneca with hydro monitoring report as soon as the report is finalized. (p.7)

ACTION06 - JS to provide Xeneca with WMP schedule (or notice of meetings) (p.8)

ACTION07 - Xeneca will provide SAC members with Project Description (p.8)

ACTION08 - PG to make consultants aware of using current LRIA technical guidelines when modelling IDF (p.8)

ACTION09 – PG to advise consultants of MNR concerns around potential downstream erosion issues (p.9)

ACTION10 - SL to provide Xeneca with Interagency Consultation planning template (p.11)

ACTION11 - TM to distribute the FFPA Interim document to Xeneca (p.11)

ACTION12 – Xeneca to schedule Interagency EA meeting and inform Chapleau District of meeting specifics (p.11)

DRAFT

Ministry of Transportation

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Planning and Design Section
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301-447 McKeown Avenue
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February 18, 2011

OEL-HydroSys Inc.
3108 Carp Rd.
P.O. Box 430
Carp, ON K0A 1L0

Attention: Tami Sugarman

Dear Ms. Sugarman:

**RE: Xeneca Power Development Inc.
Larder and Raven GS – MTO New Liskeard Area (Hwy 624)
Ivanhoe the Chute GS – MTO Cochrane Area (Hwy 101)
Serpent Four Slide Falls GS – MTO Sudbury Area (Hwy 108)
Serpent McCarthy Chute GS – MTO Sudbury Area (Hwy 17)
Vermilion River Wabashik GS – MTO Sudbury Area (Hwy 17 or 6)
Wahnapitei River Allen and Struthers GS - MTO Sudbury Area (Hwy 637)**

This is in reply to your earlier circulations concerning the above noted proposed power development projects.

I'm pleased to advise that in general, the Ministry of Transportation of Ontario (MTO) has no objections.

According to the information you provided, all sites are to be accessed via existing and proposed new roads that will eventually connect to Provincial Highways using existing entrances. As per the *Public Transportation and Highway Improvement Act*, MTO Entrance permits will be required if any modifications are required at highway entrances. Prior to making permits available, the MTO must inspect the entrance locations to ensure that our safety and operational requirements are met. Depending on the posted speed of the highway, the following minimum visibility requirements are required:

80 km/h posted = 230 metres of visibility in each direction
90 km/h posted = 250 metres of visibility in each direction

(over)

Concerning the proposed power lines, these lines must be placed outside our right-of-ways (ROW). MTO Encroachment and/or Building/Land Use permits will be required for any proposed crossing of our ROW or for lines located within 45 metres from the limits of our ROW. Vertical clearance of highway crossings must meet the requirements of MTOD – 2245.020 (copy attached).

Concerning the Allen and Struthers location, the proposed power line will cross Highway 69 near it's junction with Highway 64 west of Alban. In the near future, the Ministry will be four laning this section of Highway 69 and an interchange is planned at this junction. The power line alignment must not interfere with our proposed interchange location. Detailed information concerning our alignment may be found at www.highway69.ca.

You may obtain further information concerning our permit and setback requirements by contacting the following Corridor Management Officers:

New Liskeard – Ms. Natalie Dugas, e-mail: natalie.dugas@ontario.ca

Cochrane – Ms. Sandy Knight, e-mail: sandy.knight@ontario.ca

Sudbury – (Vermillion & Serpent River Sites) – Ms. Lise Taylor, e-mail: lise.taylor@ontario.ca

Sudbury – (Wahnapiatae River site) - Ms. Anne Poliquin-Chaput: e-mail: anne.poliquin-chaput@ontario.ca

I trust the above is of assistance. Should you wish to discuss the contents of this letter, please call.

Sincerely,



Paul F. Marleau
Corridor Management Planner

cc. Natalie Dugas, MTO New Liskeard
Sandy Knight, MTO Cochrane
Lise Taylor, MTO Sudbury
Poliquin-Chaput, MTO, Sudbury

MINIMUM VERTICAL CLEARANCES

LOCATION OF WIRES OR CABLES		MINIMUM VERTICAL CLEARANCES ABOVE FINISHED GRADE												
		COMMUNICATIONS CABLE AND SPAN WIRE	LOW VOLTAGE CABLE 0-750V	HIGH VOLTAGE CABLE								220kV (360kV)	318kV (500kV)	442kV (735kV)
				>750V ≤22kV	>22kV ≤50kV	>50kV ≤90kV	>90kV ≤120kV	>120kV ≤150kV	>150kV ≤200kV	>200kV ≤250kV	>250kV ≤300kV			
1	OVER FREEWAYS, EXPRESSWAYS, AND RAMPS	6.0	6.0	6.0	6.0	6.1	6.4	6.9	10.5	15.7	20.7			
2	OVER KING'S HIGHWAYS AND OTHER ROADWAYS	4.7	4.7	5.5	5.8	6.1	6.4	6.9	10.5	15.7	20.7			
3	OVER AREAS LIKELY TO BE TRAVELLED BY VEHICLES (OTHER THAN RESIDENTIAL DRIVEWAYS)	4.7	4.7	5.5	5.8	6.1	6.4	6.9	10.5	15.7	20.7			
4	ALONGSIDE ROADS IN DENSELY POPULATED AREAS	4.7	4.7	5.5	5.8	6.1	6.4	6.9	10.5	15.7	20.7			
5	ALONGSIDE ROADS OR OVER AREAS UNLIKELY TO BE TRAVELLED BY VEHICLES	3.3	3.7	4.5	4.9	5.2	5.5	5.8	6.3	7.5	8.7			
6	OVER RESIDENTIAL DRIVEWAYS	4.0	4.0	5.1	5.5	5.8	6.1	6.4	6.9	10.5	15.7	20.7		
7	OVER AREAS ACCESSIBLE TO PEDESTRIANS ONLY	2.8	3.4	3.7	4.0	4.3	4.6	4.9	5.4	5.6	6.6	7.8		
8	ABOVE TOP OF RAIL AT RAILWAY CROSSINGS	7.6	7.6	7.9	8.4	8.7	9.0	9.3	9.8	10.0	11.0	12.2		

NOTES:

- A Clearances shown are under maximum sag conditions as defined in CSA C22.3, No.1-06.
- B Voltages are rms line to ground. Voltages in brackets are phase to phase.
- C This MTOD is the same as OPSP-217.030.
- D All dimensions are in metres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	November 2007	Rev 0
<h2 style="margin: 0;">MINIMUM VERTICAL CLEARANCES FOR AERIAL CABLE SYSTEMS</h2>		
<p style="font-size: 1.2em; margin: 0;">-----</p> <p style="font-size: 1.2em; margin: 0;">-----</p> <p style="font-size: 1.2em; margin: 0;">MTOD-2245.020</p>		

NOTES OF MEETING

PROJECT	Xeneca – FIT Projects	DATE	20/04/11
DATE OF MEETING	15/04/11	FILE NO.	
LOCATION	MNR Office – Timmins, ON	PAGE	1 of 5
TIME	9:00 to 15:00	WRITTEN BY	Z. Vorvis
PRESENT	See attached		
DISTRIBUTION	Those present and		
PURPOSE	Present approach used for Operations Plan, clarify MNR/MOE requirements, and briefly present the eighteen projects.		

<u>Item</u>	<u>Action By</u>
<u>Introduction</u>	
Mary Ellen - all in one room to share info and large team involved. A large task to do this many projects at the same time. Uwe - presentation introduction. To discuss hydraulics/hydrology and engineering in this meeting. End of April is meeting on biology, etc. Started presentation at 9:30.	
<u>Questions</u>	
Patrick Morash inquired why the OWRA Permit To Take Water (PTTW) was not listed on one of the presentation slides. Uwe answered that Xeneca is aware of this requirement and are currently applying for PTTW for McGraw Falls. Working to cover draft guidelines from January. Presentation slide was not meant to be a complete process description.	
Bob Metcalf asked for clarification of the “run-of-river” definition being “no man-made downstream effects”. Uwe answered that essentially the definition Xeneca is using means water in equals water out. Nava added comments regarding the routing effect that will have short term effects on flowrate downstream compared to upstream flowrate. Richard added that the headponds were generally small and that little to no attenuation would occur as the plants would adjust to compensate and generally maintain headpond levels. If headpond levels are not rising or falling then inflow equals outflow. Mary Ellen added that it is important to have clarity of terms/definitions because terms have different inherent meanings to engineers, hydrologists, biologists, etc.	
Sajjad questioned how the LiDAR survey and bathymetry were tied-in. Uwe answered that LiDAR was done by air, bathymetry done on ground and tied in to LiDAR beyond bank line.	
Sajjad asked how long Xeneca will hold water when flowrate is below Q_{Tmin} . Uwe answered that the storage capacity varies and has been calculated at each site. Examples are Big Eddy and Chutes have no storage where others such as Four Slide have more.	
Bob Metcalf asked about the selection of the definition/boundaries of the seasons. Why is boundary between winter and spring on falling limb of spring melt? Richard answered that dividing line is somewhat subjective and can be revised if necessary, but by moving either way one of the other seasons (summer or spring) becomes very short or is lost. Steve McGovern added that the boundaries work well from a biologist point of view from a spawning window perspective.	
Bob Metcalf asked about the variability shown in the hydrograph. Uwe answered that natural variations are represented. Sajjad added that plotting with linear scale can be more useful sometimes than the logarithmic scale Xeneca has plotted however acknowledged the benefit	

PLEASE NOTE: If this report does not agree with your records, or if there are any omissions, please advise, otherwise we will assume the contents to be correct.

Item	Action By
of presenting the results in the manner shown. Uwe advised that data is available for MNR use and plotting as required.	
Sajjad asked how flow data was reduced/used. Nava answered that daily flow data is used, not averaged to monthly, etc. Sajjad asked for daily data. Nava will provide.	Xeneca
Sajjad asked how Xeneca is determining natural lake level fluctuations. Uwe answered that Xeneca is doing some modeling as there is very little data available. Sajjad asked about installing transducers. Nava answered that transducers were installed at lake connected projects last fall and a flow measurement was taken at the same time.	
Bob Metcalf asked what modeling is being done and how is the field data being used to validate. Nava answered that have not reached the modeling stage yet but currently collecting data. With inflow, lake and outflow it is a simple reservoir calculation. Will use synthesized flow and WSC gauges for inflow. Bob advised there is a PHD thesis paper written on lake level modeling, etc. Uwe asked for paper. (Note: Steve McGovern provided a copy of the paper to Richard during a meeting intermission).	
<p>Bob Metcalf asked what the split was between close coupled and bypass arrangements for the eighteen projects. Questioning the differences in habitat effects/loss when riffles become ponds, etc. Uwe answered there is approximately a 50/50 split between close coupled and bypass arrangements but that this can be confirmed. Uwe also indicated that Xeneca is not debating that either arrangement will need to be assessed for impacts on habitat. EA process is for determining what these are.</p> <p>Uwe noted that there were some projects where the decision between close-coupled and bypass arrangements had not been finalized yet.</p> <p>Brian Grantham asked how many sites will have both the close coupled and the bypass concepts brought through the EA process and whether sufficient biological information would be provided for both. Uwe explained that options are being kept open where necessary for engineering reasons. Preference is to settle on one, but will carry options through the EA process if necessary. In that case there would be the need to consider mitigation through the EA for both.</p> <p>Uwe discussed Wabageshik case study where both options existing however indicated that due to the gravel beds upstream of the layout proposed in the original submissions which provide valuable spawning habitat it was likely that a close-coupled arrangement located upstream of the gravel beds would be selected and brought forward.</p>	
Sajjad asked what method was used to map flow affected areas downstream of the projects. Uwe answered that a qualitative assessment was made based on whether the projects discharged in lakes or had lakes within a short reach downstream, The secondary assessment was to assess downstream tributary and river profiles. Qualitative measures used, tributaries need to provide 10% or more of flow, if grades level off the effects above are expected to be negligible. Not necessarily zero effect, but negligible.	
Sajjad asked whether Xeneca had discussions with Hydromega on Kapuskasing River regarding modification of flows, etc. Uwe answered there has been communication back and forth but details have not been discussed yet. This is an ongoing stakeholder engagement.	
Finished presentation at 11.	
Todd Kondrat asked how inundation areas were calculated pre/post construction. Uwe/Nava answered that detailed topography was used and inundation areas were mapped for 1 in 2 year, 1 in 100 year, and long term average flow cases.	
Bob Metcalf asked about minimum turbine flow, when/how will it be determined, and how is habitat considered. Uwe answered that Q_{Tlimit} flow is determined partially in discussion with MNR, from 65% up and that habitat is one of the considerations for minimum turbine flow. Richard added that unit selection and number of units is partially based on these constraints.	
Bob Metcalf asked about "zone of influence" and terminology standardization was again discussed. Agreed that MNR zone of influence is same as Xeneca's "variable flow reach".	

PLEASE NOTE: If this report does not agree with your records, or if there are any omissions, please advise, otherwise we will assume the contents to be correct.

Item	Action By
<p>Bob indicated that, to him, "modified run of river" seems to be the same as 'peaking'. Uwe said that Xeneca's definition for modified run of river was borrowed from another source. Xeneca to provide source for definition (terminology standardization required). In Xeneca's opinion, "peaking" is a much longer term storage.</p>	
<p>Steve McGovern asked if Xeneca plans to field truth simulations, confirm model and gather pictorial representation of the actual condition for given lines on a plan? Uwe related experience at McGraw where this was done, will look to do this year for these projects as well.</p>	
<p>Mark Orton (Hatch) provided an overview of approach to synthesize flows for all of the sites.</p>	
<p>Questions for Hatch from Bob Metcalf, answers by Mark Orton:</p> <ul style="list-style-type: none"> - Spatial interpolation approach used? Yes. - Discriminate function analysis done? Yes, only to see that land use and water flow are properly represented. - Flow record periods used? Shortest was approximately 20 years, longest over 80 years. Lardner Raven 14 year period available, extended to 38 years using flows from a nearby gauge. - Were older flow records looked at from a climate change/different flow regime perspective? Regional flow records were subjected to statistical screening. Records were rejected if they were more than a specific percentage from the mean. - Were rainfall runoff models run to fit into data and account for possible uncertainty of river flow records? Where there are fewer flow stations, can use other stations at same longitude. Flows vary laterally but don't vary as much longitudinally. - Were flows monitored at site used in models? Yes where gauge installed several years ago. Other gauges are too recent, likely would not have correlation on a day to day record because of isolated rainfall, etc. Nava added that we do plan to use data from level monitors installed last fall to confirm synthesized hydrologic flows. Mark added that there is a need to correlate shorter term flows with longer term flows and this could be difficult. 3 year or 50 year data used for flow synthesis will have different results. Uwe closed that Xeneca's intention is to use data that is available to the best of our abilities. 	
<p>Richard mentioned that Wes Dick (Canadian Projects Hydrological Engineer) on phone for any HEC-RAS questions if necessary. None asked.</p>	
<p>Sajjad is satisfied with the methodology of the hydrology work done to date.</p>	
<p>Sajjad asked about storage capacity of projects beyond one day. Uwe answered that there are no benefits from OPA for extended storage, only benefit from daily storage. Hours of peaked operation shown in graphs in project operating plans. Range from 2-10 hours depending on site.</p>	
<p>Sajjad asked whether the instantaneous flow data was used to determine return period flood flows.</p> <p>Richard indicated that the instantaneous peak flow data from the WSC gauging stations was used and transferred to the project sites similar to the approach used for determining the synthetic flow series.</p>	
<p>Sajjad asked how the extent of inundation was modeled. Uwe answered that LiDAR data was used to model inundation level accurately. Learned from past experience using standard topography data wasn't accurate enough.</p>	
<p>Sajjad discussed LiDAR water penetrating technology as option to bathymetric surveys that were carried out. Nava indicated that Xeneca had discussions with suppliers regarding this technology, however costs were prohibitive and the availability of this equipment was an issue</p>	

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Item	Action By
<p>(i.e. booked all over the world). Xeneca indicate that they would share the cost estimates provided for this technology with MNR if they were interested.</p> <p>Potential concerns regarding this technology were also noted as turbidity can impact the effectiveness of the system.</p>	
<p>Bob Metcalf how the LiDAR data was tied in to geodetic. Uwe/Nava responded that work to tie to geodetic is critical step and has been done. Otherwise LiDAR is just a relative survey.</p>	
<p>Sajjad asked about the use of Google Earth to assess river profiles. Nava returned to slide showing a Google Earth image of one of the project sites and answered that the flow rate was known for the date that the image was flown. The Google Earth image was essentially used to help delineate the river banks at the time. River bed elevation of the river may be higher/lower but good calibration to flood flows was achieved.</p>	
<p>Bob Metcalf asked whether the estimated HEC-RAS river cross section data used upstream of project could be used for downstream erosion modeling, etc. Uwe answered that Xeneca has detailed topography downstream as well and will use actual cross sections were available. Synthesized cross sections are only used for upstream inundation mapping. Richard added that downstream water levels won't be outside of natural fluctuations, just timing changes. Bob added that extent of time of pulses can affect loading, etc.</p>	
<p>Sediment trapping/starvation issues were discussed. Uwe talked about Kapuskasing fine sediments and mobility of fine silts. Serpent river discussed where it is basically a rock channel but there are a lot of sand backs on edges and in meanders.</p>	
<p>Project summary sheets were discussed. Ed suggested that summary tables could be prepared that show the information for all the projects in one location. Xeneca will do this through correspondence, building on existing proposed downstream parameters table. Uwe added that Xeneca is aware of issues from the work carried out and can summarize issues at each site based on stakeholder consultation, environmental work, etc. Patrick added that they would like to see summary of FN consultation/engagement as well.</p>	Xeneca
<p>Sandra Dosse mentioned EA, LRIA Section 14 requirements. Expectation is that flows and levels are being reviewed/discussed during the EA process. EA flow/level discussions will form the basis for LRIA/location approval/WMP discussion. Also, Operating Plans are meant to be dropped into WMPs. Patrick added that MOE involvement at same time will be helpful because MOE is involved later in PTTW/OWRA and will want to make sure that MOE is in agreement with MNR agreed flows/levels. It was noted that information required for PTTW is more than in the past. Information submitted through MNR is meant to be flipped over to MOE nearing end of that process. Patrick advised that there are two permits required - short term for construction and another for operating. Sajjad advised that the EA should be used as a technical appendix to the PTTW application.</p>	
<p>Jim Beal (thru Mary) discussed MNR triage/review time process and wanted to know from Xeneca which projects/timing is required to get workload and process resolved. Ed Laratta will send priority list next week with other deliverable. The priorities will be based on where there are less public and environmental issues. List will have priorities and ideal timelines. Current priority list involves 3 phases of projects with 2 months between each phase.</p>	
<p><u>Closing Comments</u></p>	
<p>Patrick – helpful, have many other projects on table besides these 18, will do everything possible to adhere to timelines, but there is a lot of work to do.</p> <p>Denis - developing a MOU between both ministries to reduce duplication of permitting. Working towards that in concert with OWA.</p> <p>Ed - helpful, question on eastern region representation. MNR will be at 28th/29th meetings (Mary Ellen indicated that the eastern region would rely on the western region to cover their concerns) and MOE has eastern representation on call.</p> <p>Steve - impressed with data presented and meeting was useful, helpful.</p> <p>Richard/Zach - good to get issues on table at start.</p>	

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Item	Action By
<p>Todd - helpful information, hopes that there will be the same amount of data on biological side.</p> <p>MOE Timmins - helpful to see the information.</p> <p>MOE Thunder Bay – Flagged that O.Reg 387/04 was major change in 2005 on PTTW process.</p> <p>Sajjad - helpful, answered questions on baseline data collection and modeling methods used.</p> <p>Rich - hydrology information looks good, raw data later for own assessment.</p> <p>Bob - no comment.</p> <p>Nava - helpful, any data/reports that regulators require we are happy to provide.</p> <p>Uwe - tight timeline, know 18 projects is an imposition, open door policy appreciated. EA dialogue is often on perception of lack of information or process, Xeneca is trying to alleviate this.</p> <p>Sandra - next challenge will be 2-day meeting at end of April and bringing district staff up to speed. Talking early and often is the key.</p> <p>Brian - helpful/informative, no comment.</p> <p>Jim - no additional comment beyond triage.</p> <p>Peter - (water supervisor eastern region) would like list of people at table. Good to identify issues up front. Suggested Xeneca look over environmental bill of rights for Mississippi water region regarding a decision that could have gone better at EA stage instead of PTTW stage.</p> <p>Paula – questioned whether bringing options through an EA was acceptable. Uwe advised that there are some that we want to keep alternatives. Paula has not seen a project that did this in the past, public loses opportunity to comment after the EA process. Sandra added that location approval could be difficult if design not finalized. Sandra also added that Paula will be the designated “one window” access person for Xeneca at MOE for all 18 projects.</p>	

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Meeting Attendees**Xeneca FIT Projects****April 15, 2011 Meeting at MNR Office - Timmins, ON**

	Name	Organization	Email
1	Mary Ellen Stoll	MNR - Science and Info Branch	maryellen.stoll@ontario.ca
2	Jim Beal	MNR - Operations	jim.beal@ontario.ca
3	Sandra Dosse	MNR - Operations NE Region	sandra.dosser@ontario.ca
4	Brian Grantham	MNR - Aquatic Research	brian.grantham@ontario.ca
5	Patrick Morash (on phone)	MOE - Northern Region	patrick.morash@ontario.ca
6	Kathy McDonald (on phone)	MOE - Northern Region	kathy.mcdonald@ontario.ca
7	Paula Allen (on phone)	MOE - Northern Region	paula.allen@ontario.ca
8	Peter Taylor (on phone)	MOE - Eastern Region	peter.taylor@ontario.ca
9	Bruce Metcalfe	MOE - Eastern Region	bruce.metcalfe@ontario.ca
10	Edmond Laratta	Xeneca	elaratta@xeneca.com
11	Steve McGovern	MNR - Aquatic Science Team Leader	steve.mcgovern@ontario.ca
12	Richard Slopek	Canadian Projects Limited	rslopek@canprojects.com
13	Zach Vorvis	Canadian Projects Limited	zvorvis@canprojects.com
14	Todd Kondrat	MOE - Northern Region	todd.kondrat@ontario.ca
15	Mohammad Sajjad Khan	MOE - Northern Region	mohammad.khan@ontario.ca
16	Rich Pyrcce	MNR - NESI	rich.pyrcce@ontario.ca
17	Robert Metcalfe	MNR - Aquatic Research & Development	robert.metcalfe@ontario.ca
18	Nava Pokharel	Xeneca	npokharel@xeneca.com
19	Heather Nelson	MOE - Northern Region	heather.nelson@ontario.ca
20	Lianne Kentish	MOE - Timmins District	lianne.kentish@ontario.ca
21	Denis Durocher	MOE - Timmins District	denis.durocher@ontario.ca
22	Uwe Roeper	Xeneca	uroeper@xeneca.com
23	Mark Orton (on phone)	Hatch	

MINUTES OF EA COORDINATION MEETING The Chute and Third Falls Hydroelectric Projects

Date: Tuesday, April 19th, 2011, 10:00

Meeting Location: MNR Timmins District Office and via Teleconference Call

Prepared By: Pilar DePedro

Attendees:

Ministry of Natural Resources:

- Sandra Dosser, Renewable Energy Coordinator (SD)
- Bill Guthrie, Planning and Information Management Supervisor (BG)
- Tim Mutter, District Planner (TM)
- Kris Vascotto, Planning Biologist (KV)
- Susan Lindquist, Resource Liaison Specialist (SL)

Ministry of the Environment:

- Lianne Kentish, Senior Environmental Officer (LK)

Foleyet Local Services Board:

- Sheila Derasp (SDe)
- Fern Dallaire

OEL-HydroSys Inc. (Environmental Approvals Consultants):

- Tami Sugarman, Environmental Approvals Senior Advisor (TS)
- Pilar DePedro

Natural Resource Solutions Inc. (Biological Consultants)

- Dave Green
- Brett Woodman

Via Teleconference

Ministry of the Environment:

- Ellen Cramm, Environmental/EA Coordinator (EC)
- Ed Snucins, Surface Water Specialist (ES)

Ministry of Energy and Infrastructure:

- Helen Kwan, Senior Policy Advisor REA Office (HK)

Department of Fisheries and Oceans:

- Alan Rowlinson, Fish Habitat Biologist (AR)

Transport Canada

- Haya Finan, Environmental Officer (HF)

Natural Resources Canada:

- Caitlin Scott, Junior Policy Analyst (CS)

Xeneca Power (by Teleconference)

- Dean Assinewe, Aboriginal Relations Liaison (DA)

Regrets

Dave Bell, Project Manager, Canadian Environment Assessment Agency
Mike Shaw, Environmental Assessment Officer, Environment Canada
Ed Laratta, Mike Vance, Xeneca Power

Attachments	Project Descriptions for The Chute and Third Falls Waterpower Developments (document issued in advance of meeting)
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The following Meeting Minutes were recorded by Pilar DePedro of OEL-HydroSys Inc. The notes reflect the understanding of discussions held during the meeting. Based on comments received from the Draft distribution, these minutes have been adopted and are considered accurate.

Distribution of these meeting minutes to anyone other than a participant, or an invited participant requires prior approval by all those on the distribution list.

Item	Item Description	Action by
1.0	<p>Introductions and the Environmental Assessment Process</p> <p>Meeting objectives</p> <ul style="list-style-type: none"> • to initiate the discussion surrounding information that has been distributed to regulators for the proposed project; • to identify applicable legislation and permitting requirements early in process; • to identify any gaps in data analysis; • to open dialogue <p>OEL (TS) introduced The Chutes and Third Falls projects and outlined that the proponent would separately assess each project through the Class Environmental Assessment for Waterpower Projects. Additionally, it is expected that the projects will trigger the requirement for a Federal Environmental Screening due to law list triggers (<i>Navigable Waters Protection Act</i> and the <i>Fisheries Act</i>). As a result it was the intent of the proponent to harmonize the Provincial and Federal processes into one environmental assessment planning process for each site and to produce a single environmental report for each project which would address the requirements of both the provincial and federal processes.</p> <p>OEL (TS) briefly explained the Class Environmental Assessment (EA) for Waterpower, noting this was a proponent driven process, as such there is no formal approval granted. The Ivanhoe River is considered a managed waterway and as a result the proponent will follow the planning process for a new site on a managed waterway. TS added that there is a 30 day review period once the final Environmental Report is released (Notice of Completion), and that the review is open to regulators and the public.</p> <p>MOE (EC) added that if there are objections to how the proponent conducted the EA, a request for a Part II Order under the Ontario Environmental Assessment Act can be filed during this period. If resolution is not achieved, the Director of the MOE will issue a decision either denying the request, directing the proponent to correct deficiencies or granting the request for a Part II order.</p> <p>OEL assumes the role of writing the EA document and agency consultation; public and aboriginal consultation aspects of the projects are undertaken by Xeneca staff directly.</p>	

	<p>MNR (TM) led debate as to what is a managed and unmanaged waterway. These projects are considered to be on managed waterways based on the OWA Class EA as the water body is part of a water management plan and there is an existing structure on the river; the Ivanhoe Dam. The MNR would prefer it to be classified as unmanaged due to the distance from the existing MNR dam(s) to the project sites, only minimal changes will be noted and it will be difficult to measure flow changes. OEL (TS) suggested this discussion be deferred to the Operating Plan meeting scheduled for the end of April.</p> <p>OEL (TS) provided a synopsis of each site noting The Chutes transmission line is 26kV and Third Falls is 115kV according to the project description. The Waterpower Class EA classifies powerlines under 115kV capacity to be exempt from assessment. The MNR Class EA for Resource Stewardship and Facility Development (RSFD) process may be required to assess the transmission line component for The Chute. MNR (TM) noted that further discussion needs to take place to determine which transmission route would be reviewed under the Waterpower Class EA and which route may be assessed under the RSFD Class EA. The processes can be harmonized, but further discussion will need to take place to determine how the consultation and evaluation components can be merged. OEL (TS) added that the proponent may be proposing a separate EA for the transmission corridors. TM mentioned that in order to initiate the RSFD Class EA for the Chute transmission line, the district would need to receive a formal request for all the required permits and approvals (easement, work permits, forest resource license, etc) along with a formal project description. TM mentioned that the district would be willing to assist Xeneca with this application if required.</p>	<p>Determine project waterway classification at OP meeting end of April.</p> <p>Xeneca to decide on RSFDP Class EA for transmission corridor and reissue NOC as required.</p>
<p>2.0</p>	<p>Proposed Project Schedule</p> <p>OEL (TS) explained that Xeneca would move forward with issuing a Draft Environmental Report in June 2011. Under the terms of the FIT contract commissioning is set for April 2015, with start up to be initiated towards the end of 2014. TS acknowledged that there may be gaps in the data collected to date and that these would be identified once the technical reports (including biology, archaeology, hydrology and operating plans) had been reviewed by the agencies/ministries. CD copies of the biology reports and operating plans were given to MNR (BG) and MOE (LK). TS added that Xeneca would commit to completing any further studies as required prior to the permitting stage for the project, noting that while it was a somewhat unconventional approach to EA planning, the schedule necessitated this approach.</p> <p>MOE (EC) sought clarification as to whether the data gaps identified in the draft report would be addressed in the final report. TS replied that Xeneca had already completed field investigations and that it was hoped that at the draft review that the agencies/ministries would dictate the requirements for any additional investigations. TS added that Xeneca would identify clear commitments to complete any outstanding studies in the final Environmental Report but may not have additional data by this time. MOE (EC) commented that this approach may not meet the requirements of the</p>	<p>OEL to inform Xeneca on consultation requirements.</p>

	<p>Class EA process as studies are to occur after the EA is scheduled for completion. MOE (EC) and MNR (SD) stated that there remains a public consultation requirement to present the findings of these investigations which could otherwise lead to a Part II order request.</p> <p>TS acknowledged that any commitments made by the proponent would have to be honoured otherwise an amendment to the EA or possibly a new EA may be required.</p>	
<p>3.0</p>	<p>Public and Aboriginal Consultation</p> <p>MNR (TM) led discussion on to public and aboriginal consultation and there was a general opinion from the agencies; MNR and MOE specifically that additional engagement was needed along with consultation plans. MNR (TM) and the FLSB (SDe) requested additional Public Information Centres (PIC) in Timmins, Chapleau and Foleyet. MNR (BG) will provide advice on which newspapers to advertise in and when, BG further suggested a two-week minimum notice to ensure an accurate representation of the local and seasonal population. FLSB (SD) stated that Xeneca had discussed the possibility of a PIC in May to ensure engagement with seasonal residents and she requested that all notices be sent to her for distribution.</p> <p>MNR (TM) stated that they were present at the two PIC's held on January 13th and 27th and that the project details seemed to be very limited. MNR was concerned that the information available may not be considered adequate in terms of public consultation requirements.</p> <p>TM inquired as to the status of road upgrades as none have been mentioned to date with respect to the Third Falls project description. For both sites, all road construction, road upgrades, water crossings, and transmission routes must be addressed through the Waterpower Class EA and also require public consultation. (Exception may be the transmission corridor for the Chutes which may be addressed through the RSFD Class EA as discussed above)</p> <p>Xeneca (DA) joined in via teleconference, provided a summary of aboriginal consultation to date and what aspects would be addressed in the consultation plan. DA agreed to distribute the aboriginal consultation plans to the regulators. DA identified the following aboriginal communities involved in the Ivanhoe River projects, so far he has held preliminary meetings with the first three;</p> <ul style="list-style-type: none"> • Chapleau Cree First Nation • Chapleau Ojibway First Nation • Brunswick House First Nation • Flying Post First Nation • Taykwa Tagamou First Nation • Métis Nation of Ontario • Wabun Tribal Council <p>MNR (SL) noted that the Mattagami First Nation should also be included in the aboriginal consultation process along with Moose Cree First Nation</p>	<p>OEL will inform Xeneca on requested additional PIC's. Xeneca has promised to the Foleyet LSB a PIC in Foleyet in May 2011.</p> <p>MNR (BG) to forward names of newspapers to place project notices in.</p> <p>OEL to forward Aboriginal and Public consultation plans to agencies and regulators for review.</p> <p>Xeneca to conduct Aboriginal community consultation with other communities mentioned herein. Documentation is required for all meetings with FN and other Aboriginal groups.</p>

	<p>and the Michipicoten First Nation. SL asked if there was any documentation confirming which First Nations had agreed to be represented by the Wabun Tribal Council. DA responded that there had been discussion of having band council resolutions but no documentation has been forwarded yet to Xeneca. SL stated that this documentation was critical to meet consultation requirements and that some of the identified communities have expressed a lack of engagement with Xeneca. OEL (TS) acknowledged this and suggested meetings to be undertaken with these communities.</p>	<p>Xeneca to provide MNR with documentation in relation to Wabun tribal Council representation of other groups.</p>
<p>4.0</p>	<p>Legislation, permits and approvals</p> <p>MOE (LK) and MNR (TM) stated that the Potential Approvals List provided in the project description was likely insufficient. MNR (TM) mentioned that the project descriptions, as drafted, did not contain enough detailed information for MNR to make a proper assessment as to the required permits and approvals. MNR requires more detailed information on almost all aspects of the project from set-up and construction to operation. [For example, which access roads need to be upgraded? Do any new roads need to be built? Where? To what standard? (ideally 1:20,000 scale mapping of new roads and road upgrades is required) Are any new water crossings planned? Any upgrades to existing water crossings? Where? (again, 1:20,000 scale mapping required) Will the proponent require clearing for construction set-up? If so, where and how large of an area? Where will the transmission line run? (1:20,00 scale mapping required) Will any access roads or water crossings need to be built or upgraded along the transmission corridor etc? All this needs to be addressed up front if the proponent wishes to incorporate all EA review requirements into their Waterpower Class EA. If this is not done satisfactorily, additional review and consultation may be required beyond the Waterpower Class EA] Ministries and Agencies present confirmed they would provide the project team with information for applications and the supporting documentation requirements once more detailed project information has been provided.</p> <p>The FLSB (SDe) raised concerns about water levels since Foleyet's sewage treatment facility may be impacted by loading rates which in turn could affect water quality. A guarantee was sought that there would be no impacts to the community's potable water supply as a result of this undertaking. SDe produced a letter to Xeneca outlining the FLSB concerns which had been sent to the proponent. MNR (TM) stated that operations of the Ivanhoe Dam will not likely be altered in support of this project. However, as per the provisions of the Mattagami Water Management Plan, the proponent does have the ability to request an amendment to that plan to request a change in the operations of the Ivanhoe Dam. The request will be reviewed by the Mattagami WMP Standing Advisory Committee and if acceptable, may require further analysis and/or public and Aboriginal consultation. However, based on a preliminary consideration of this, it is unlikely that MNR would support such a request. OEL (TS) stated that the zone of influence of the project would be clearly identified in the Operating Plan and through HEC-RAS modeling.</p> <p>It was agreed that the MNR Site Information Package (SIP) will act as a living document containing natural heritage values and concerns for the project area and the project team will be notified of any changes during the</p>	<p>Xeneca to provide; Construction Plan including a Sediment and Erosion Control Plan; access roads and transmission line corridor mapping to agencies and regulators.</p> <p>Agencies present will provide information on supporting documentation for permit applications.</p>

	<p>with baseline monitoring guidelines. OEL (TS) responded that due to the tight deadline spring spawning will be missed. ES suggested a review of the work plan in order to improve design for sampling otherwise it will have to be repeated. ES stated that Lake sturgeon should be assessed this year due to annual variability, one year would not be sufficient.</p>	
<p>5.0</p>	<p>MNR requirements for permitting, field studies, other</p> <p>TM and KV identified key study and permitting requirements in support of this undertaking. MNR offered to work with NRSI and Xeneca to build sampling program that would provide adequate baseline information in the time allotted. Fisheries assessments (RIN sampling for biodiversity assessment, focused studies for population assessment), detailed aquatic habitat assessments including main stem and incoming tributaries impacted by the area of inundation and zone of influence (critical habitats for fish community), benthic invertebrate sampling (taxa richness/density, invertebrate drift), aquatic vegetation community assessments (enhanced species lists), channel characteristics (geomorphology and substrate analysis) as well as continued assessment of riparian habitat, determination of temperature regime analysis of main stem and tributaries.</p> <p>TM inquired as to whether the project description would be revised and re-issued, noting the Ministry had some concerns about the content of the document and the process being followed. OEL (TS) noted that Xeneca would be informed of comments on project descriptions and that it would not be re-issued, revisions would be provided as an addendum distributed to everyone who received a copy of the PD if it was necessary. TM stated that MNR would provide comment on the PD's within the following few weeks.</p> <p>MNR (TM) stated that he had been contacted directly by Xeneca regarding permits and approvals for geotechnical work and would like clarification as to whether this will be included in the Waterpower Class EA or if it is separate. If it is separate, it may trigger the RSFDP Class EA. Additional clarification regarding plans to conduct geotechnical work is required from Xeneca before any permits and approvals for this work can be issued. OEL (TS) responded that OEL was not aware of this plan and that she would inform Xeneca of what was required to do this investigative work. A construction plan for the building of the project might be available in time to incorporate it into the ER, however, TS would have to confirm this with Xeneca.</p> <p>TM also noted that the projects do not yet have Site Release approval.</p> <p>Other MNR permits and Approvals (TM): 1. Permits and Approvals – Public Lands Act (PLA)</p> <p>Construction phase:</p> <ul style="list-style-type: none"> • "Sites with capacity over 75kW" will require Crown lease during the construction phase – survey required for lease (structural foot print) • Insurance and financial security required 	<p>MNR to provide comment on PD's.</p> <p>Xeneca to issue addendum in response to MNR review comments on PD.</p> <p>Xeneca to provide a site specific construction management plan (including investigative studies work).</p>

Work Permits as required:

- Work in water
- Work on shore lands
- Clearing aquatic vegetation

Once facility built:

- Water Power Lease Agreement for operation of facility
- Insurance and financial security required

Other ancillary uses:

- Tenure required for area of inundation (easement) – right to flood
- Transmission lines, roads, water crossings, and temp work camps require applicable work permits and/or occupational authority
- Transmission lines require LUP/easement tenure; roads may be held under easement

Other general points (PLA):

- RSFDP EA requirement for dispositions may be embedded into the Waterpower Class EA, however, proponent must demonstrate that they have complied with all applicable EA obligations.
- Mining tenure considerations: Lands under mineral rights tenure issued under Mining Act must be respected. For any such lands, MNR will require consent for the disposition of surface rights or otherwise obtain the mining tenure holder's written approval.
- All registered documents require approved survey (lease, easement)
- MNR retains decision-making/ approval authority for all dispositions regardless of a project's authorization under the EA Act.

- Various policies and procedures: Water power site release pol/pro 4.10.05, Disposition of Rights to Crown Resources 4.02.01, Survey Plan Approval Policy 2.06.01, Utility corridor Mgmt Policy 4.10.03, Easements Policy 4.11.04, Crown Land Rental Policy 6.01.02, Work Permit Policy 3.03.04

- Require detailed information regarding project design (location, timing, pre-construction, during construction, and post construction).

- Currently, the project description (PD) does not provide this information in enough detail for MNR to scope all of the permit requirements.

- Further comments will be provided by MNR regarding the PDs.

2. Permits and Approvals – Lakes and Rivers Improvement Act (LRIA)

Note: Location approval under LRIA can only be granted if the proposal meets the 'test' of upholding the Section 2 of the act. **Specifically, sections 2d and 2f must be maintained. This can only be achieved if adequate information is collected pre-construction and adequate post-construction monitoring is proposed to provide an understanding of the net impact of construction/operation of the proposed facility on the zone of influence will be.**

- Sec 14 – Location Approval
- Sec 14 – Plans and Specs Approval

<ul style="list-style-type: none"> • Sec 23.1 – Water mgmt Plan Approval - Note that LRIA location approval will not be provided until all other agency permits and approvals are obtained (e.g. PTTW – MOE and Fisheries Act - DFO) - Location approval may also require specifics of local habitat compensation - Plans and Spec drawings and supporting material must be sealed as final and stamped by the design engineer and “Issued for Construction” - LRIA requires 3 copies be provided to district for approval – recommend 4 copies. - LRIA approval conditions will reference mitigation and monitoring conditions developed during the EA process (provides enforcement mechanism) - Checklist of application information requirements for location and plan and spec approval – will be provided by MNR <p>3. Permits and Approvals – Crown Forest Sustainability Act (CFSA)</p> <ul style="list-style-type: none"> • FRL required for all cleared areas (site footprint, temp construction camps, etc.) • Overlapping license agreement may be required for large scale clearing, particularly the transmission corridor • Use/Maintenance agreement required for use of all forest access roads (Tembec/ EACOMM) • For all clearing of trees, volumes and areas must be provided to MNR by the proponent • Plans to clear the area of inundation? FRL required in addition to volumes and areas. • All merchantable timber cleared must be provided to SFL holder as a first right of refusal. <p>- PD does not address the above points</p> <p>4. Permits and Approvals – Aggregate Resources Act (ARA)</p> <ul style="list-style-type: none"> • If Crown material (sand, gravel) is required for any construction, operation, maintenance activities, then additional permits and EA considerations may be required. Permits and approvals for a “Greenfield” site may take up to one year, possibly longer. • If Xeneca plans to source aggregates from a third party, then that material must come from an approved Category 9 aggregate pit. The holder of the Cat 9 pays royalties to the Crown on the material used, and then charges a commercial rate to the customer. <p>- PD does not address location of commercial aggregate sources</p> <p>5. Permits and Approvals – Water Mgmt Plan (Sec 23.1 LRIA)</p> <ul style="list-style-type: none"> • Ivanhoe River is managed in accordance with an approved WMP – Mattagami River System WMP. • Section 23.1 approval for water management planning may be embedded within the EA process. 	<p>Xeneca to identify source of aggregates.</p> <p>Xeneca’s public consultation</p>
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- All development and construction must adhere to the FFPA legislation and associated regulations.
- Construction, operation and maintenance of the facility and connecting transmission lines is compliant with the FFPA (e.g. Having operational fire extinguishers for heavy equipment and power saws, machine maintenance programs to clear debris, spark arrestors, smoking and time of day burning restrictions).
- Land clearing or other works performed under the Crown Forest Sustainability Act (overlapping license) must be compliant with the Modified Industrial Operations Protocol – a copy of this document will be provided to Xeneca.

MNR to provide a copy of the Modified Industrial Operations Protocol to Xeneca.

Agenda Item 5 – List of values and issues of concern:

- Preliminary values and associated concerns (aquatic values, proposed base flows, socio-economic considerations, etc) for these proposed developments have been detailed in the Site Information Package that has been provided to Xeneca.
- Additional comments and/or concerns will be added to the SIP as further detailed site information becomes available. (i.e. site design, operation, alternative chosen for Third Falls). **The SIP, as a living document, will act a central repository for MNR EA comments as the process moves forward.**
- Baseline data requirements and natural environmental concerns as outlined below and previously discussed with Xeneca (including concerns regarding ecological integrity within the Conservation Reserve and Provincial Park) would largely be mitigated by the proponent committing to maintain either a monthly or seasonal minimum flow immediately downstream of the proposed development that is consistent with the 80th percentile exceedence flows.
- Some of the more prominent values/ concerns that have been identified to date include:

- Social/Culture:

- Aboriginal concerns regarding the maintenance of ecosystem function
- Use of river as a traditional travel corridor
- Use of river as a recreational canoe route (incl. portages)
- Potential disturbance of unidentified Cultural heritage resources (MTC to address)
- Access points boat launches, roads, and trails to both sites
- Sites used for many years for fishing, hunting, camping, viewing (falls aesthetic value), nature appreciation, etc.

- Economic:

- Forest resources
- Use of existing roads and trails, and bridges (resource extraction)
- Long est. use by outfitters (fishing, hunting, aesthetics). Current information regarding magnitude of use and impact on local businesses
- Existing mining tenure (3rd Falls)
- Existing trapping, baitfish harvesting

- Natural:

The following is an incomplete list of outstanding values/concerns associated with the proposed development – it is recommended that

Xeneca refer to the MNR established management objectives for the Ivanhoe River for further details. This list as presented below describes obvious areas needing further development in order to inform the MNR that location approval will not contradict established policy pieces such as our Provincial Parks and Conservation Reserves Act, Ontario's Biodiversity policy, Our Sustainable Future, Ontario's Resource Based Tourism Policy, Ontario's Strategic Plan for Ontario's Fisheries and the MNR land use policy for the site.

1. **Concern for the potential negative cumulative effects associated with both developments**
2. Negative impacts of proposed development/operation on the potential population of a SC species (Sturgeon)
3. Negative impacts of proposed development/operation on the ecological Integrity of the Zone of Influence (ZOI) – including benthic production in support of 1.
4. What will be the impact of the proposed development construction/operation on the ecological function of tributaries – including benthic production, critical habitat areas and native biodiversity within the ZOI?
5. Potential for negative impacts of construction/operation on the biodiversity of terrestrial/aquatic communities. A desired outcome would be maintenance of existing species assemblages for those fish and process reliant on these areas for production
6. Potential for alteration to the thermal regime in the river as a result of construction/operation of the proposed facility.
7. Riparian community (amphibians, mammals, vegetative community) – maintenance of biodiversity and existing habitat – potential for negative impacts as a result of construction/operation of the proposed facility.
8. Potential impacts of construction/operation of the proposed facility on the ecological Integrity of downstream Conservation Reserve and Park – especially as it pertains to SC sturgeon population in Ivanhoe/Groundhog confluence.
9. Preservation of the natural amenities of sites (shoreline, channel, etc) during and after construction of the proposed development.
10. Construction/operation of the proposed facility will require the protection of significant habitat areas – loss of MAFAs, beaver slide, otter slides, etc – strongly impacted by inundation – Significant habitat

Agenda Item 6 – Additional Information Requirements

There are some specific information requirements in addition to those referenced in the preceding sections of these meeting minutes. They include:

Transmission line/corridor

- MNR will require further detailed information with respect to the proposed construction and location of the require transmission lines
 - Current mapping is inadequate: too large scale and information missing (entire route not shown)
 - May be several values impacted: Current data only shows one route.
- Recommend that Xeneca consider alternative to avoid delays in**

the permitting and approval process.

- Current routing shows overlap with both CRs (Vimy CR/ Nova CR) and Park (Groundhog)
- Protected area policy allows consideration of utility crossings, but only where there are no reasonable alternatives. Xeneca must demonstrate that they have considered alternatives and why other alternatives are not feasible.

Flow metrics

- Ensure that appropriate data is being used in all flow data analysis. The original applications used data that had been pro-rated from another managed waterway of similar size. Flow data in the project descriptions is not referenced.
- The Ivanhoe River has Water Survey of Canada Gauges installed and data has been collected for many years.
- In addition, MNR has undertaken real-time flow data collection over the last two years at both locations via river profile analysis (River CAT doppler) and installation of pressure transducers. This data has been/will be provided to Xeneca.
- MNR hydrologists will scrutinize all flow metric analysis based on the WSC data as well as the recent data collected at the sites.

From a natural environment perspective, the MNR is anticipating that the following deliverables will be provided as a part of the Environmental Report which can then be used to inform the District prior to location approval. If this is not addressed through the Waterpower Class EA process, it will be required prior to the granting of location approval.

1. Characterize pre-construction productivity, habitat, thermal regime, species assemblage (fish, benthos, aquatic plants) within the zone of influence (special focus on bypass reaches) and any tributaries that will be directly impacted by the proposed development.
Specific components include:
 - a. Describing condition of benthic community and associated annual variation prior to construction.
 - b. Detailed description of habitat in ZOI, affected tributaries and bypass reaches, included sediment characteristics, channel characteristics, bathymetry and flow characteristics.
 - c. Describing the existing thermal regime of the ZOI, affected tributaries and bypass reaches including annual thermal patterns and inter-annual variation.
 - d. Describing existing species (fish, invertebrates, terrestrial and aquatic plants) within the ZOI, affected tributaries and bypass reaches.
2. Characterize stock dynamics of recreationally/commercially important species within the ZOI to determine pre-construction levels. These levels will be used as targets for post-construction.
Specific components include:
 - a. Description of existing Walleye stock, including age, mortality, growth, fecundity and critical habitat areas,
 - b. Description of existing Northern pike stock, including age, mortality, growth, fecundity and critical habitat areas,
 - c. Description of existing Brook trout stock, including age,

- mortality, growth, fecundity and critical habitat areas,
3. Demonstrate no-impact to the ecological integrity of the downstream CR and Provincial Park Specific components include:
 - a. Characterize the baseline condition within the ZOI downstream from the site, including biodiversity of terrestrial/aquatic communities, stock structure of fish species currently inhabiting the reach and establishing baseline metrics to determine the magnitude and direction of any effect in a pre- and post-construction state.
 - b. Characterize hydrological/physical characteristics of ZOI within the CR including sediment structure/distribution, habitat mapping, and monitoring of thermal regime in a pre- and post-construction state.

As discussed, presented below are several methods that may aid Xeneca in establishing these information requirements. It is understood that planned conversations between Xeneca, NRSI and the MNR will further refine this list to provide a realistic scope of work that can be achieved in the available timelines and achieve the desired outcomes.

1. Benthos collection of bypass reaches and tributaries impacts by the development. Suggest OBBN protocol that includes representative sampling of all habitat types (including present riffle-pool habitat).
2. Seasonal fish sampling within bypass reach to determine what is being lost, and the overall value.
3. Thorough assessment of all tributaries impacted within the ZOI – suggest EPA Wadeable Stream assessment protocol – provides benthos, habitat and vertebrate species information.
4. Amphibian collection throughout area of inundation – suggest drift fencing to determine this – cover boards not adequate.
5. Reptile surveys require rock-flipping to determine presence/absence.
6. Stock recruitment of recreationally/commercially important fisheries (BT, W, NP) including age, mortality, growth, fecundity and critical habitat areas.
7. Determination of compensation areas for lost spawning habitat.
8. Determination of design to prevent thermal impact on trout-bearing waters.
9. Physical/thermal assessment of river – including detailed bathymetry and temperature cycling of sites (including bypass reach) over yearly cycle.

Agenda Item 7 - Consultation Plan

Public consultation

- MNR has concerns regarding the degree and method of public consultation up until this point.
- Public Information Centres have been held in Foleyet, yet none in Timmins and Chapleau where many people that use the river reside.
- Open house material was lacking. Public information boards offered very little detail with respect to site design and/or the proposed water management regime.
- Very little, if any, information was posted with respect to other permit and approvals that are required (e.g. Requirements for WMP

	<p>amendments)</p> <ul style="list-style-type: none"> • MNR has been receiving several letters of concern from the public and some are claiming that Xeneca is not responding to them. • What further public consultation opportunities are being planned for the residents of Timmins, Foleyet, and Chapleau? Will further detailed information be available at future open houses? <p>The MNR recommends that Xeneca work with MNR/MOE more closely to develop a comprehensive public consultation program.</p>	
8.0	Meeting adjourned at 14:40	

Item	Action By
river projects (The Chute and Third Falls)	
The Chute - 3.6 MW, 9.5 m head, 38 m³/sec, 2.8 km head pond, close coupled.	
<p>MOE(Sajjad) - How has Xeneca confirmed upstream extent of inundation?</p> <p>Nava – Initially projected static inundation for the plan presented NOL (Normal Operating Level). Have now done HEC-RAS modelling to confirm the upstream extent of inundation which is where the normal water level meets the inundated water level.</p> <p>Sajjad - Inundation that MNR looks at is flood condition, not NOL. Has this been looked at?</p> <p>Nava - Xeneca has plotted NOL, high water mark, 1:2 yr, and 1:100 yr inundations. Used long term average flow for the inundation area.</p> <p>Will be asked to lower dam if a house would be inundated in the 1:100 year flood scenario.</p> <p>Nava - private land is considered in 1:100 yr inundation. Downstream dam break analysis is not done until detailed design stage. Need to look at IDF (inflow design flood) level at this stage to look at impacts. Uwe answered that Xeneca is aware of new guidelines from LRIA and new MOE guidelines. Xeneca sees the EA stage as a conceptual design stage, where plans/specs approval is the more detailed stage and need to deal with detailed issues at that time.</p>	
<p>MNR - for location approval, it will be best to have a more conservative approach in EA stage so that location approval falls inside of EA envelope. From a process perspective, if it is an impact at location approval stage, need to be considered at EA stage to avoid potential of having to open up the addendum provision.</p> <p>Uwe - Kapuskasing example discussed where two different concepts are being considered, presenting both through the EA process, will decide which to proceed on based on negotiations with Tembec, stakeholders, etc. Treating land stakeholders very consciously because they will be involved at all stages.</p> <p>Uwe - confirmed that two different inundation areas will be carried through on multi-concept projects if inundation areas vary and effects on wildlife will be considered for both options at the EA stage.</p>	Xeneca
<p>MNR asked about earthen embankment accessory dam for the Chute mentioned in project description.</p> <p>Nava - dyke wouldn't be required if a creek is coming into the head pond, only if it is flowing out to prevent head pond spill into a secondary area.</p>	
Third Falls - 5 MW, 10 m head, 46 m³/sec, 5.6 km head pond (option 1)	
<p>Nava explained issues with conservation area (Clay Belt Forest Complex Conservation Area), powerhouse originally designed within the area. If powerhouse is moved upstream, lose significant head and want to build head pond 1.5 m higher and head pond would extend up to tailrace of The Chute project, resulting in 30 km inundation area.</p>	
<p>MNR - why Xeneca is continuing to consider option 1 when MNR has advised that by legislation it is not an option because of the conservation area. With option 2, is it not considered one project (with The Chute) in terms of impact because of extent of inundation?</p> <p>Uwe - option 1 is still on the table because it has small footprint/impact, while option 2 has significant footprint. Since Receiving some conflicting advice on process, we</p>	

Item	Action By
<p>want to consider it until absolutely removed as possibility. Xeneca is producing EAs for multi projects as one EA where they are in series and can revise the approach for The Chute/Third Falls if necessary.</p>	
<p>MNR - when will they receive updated PD to show option 2 and the 30 km of inundation?</p> <p>Uwe - will be sent out when complete. Xeneca wants to forward information as soon as possible. There are a lot of projects and a lot of data, Will make it available as soon as possible.</p>	Xeneca
<p>MNR - what is conflicting advice?</p> <p>Uwe - order in council decision is a possible way forward. Would do this if Xeneca had MNR backing that it was a better option. Lawyers are looking at options but may not proceed if it is too complicated and no backing from MNR.</p>	
<p>MNR - why is Xeneca proceeding with the project with greater inundation, less head? Why not stop the project given changed conditions?</p> <p>Uwe - Xeneca builds hydro projects, will continue working on this project if it is at all possible.</p> <p>MNR - timelines for approvals with an order in council decision likely 1-2 years including land use amendment change for Crown Land.</p> <p>Sandra – Would Xeneca like some process information from MNR?</p> <p>Uwe - yes that would be helpful. Xeneca has prioritized projects based on issues and Third Falls is lower down on priorities because of some of these issues.</p>	MNR
<p>MNR - raised requirement for baseline data for full inundation length if option 2 is being followed up with.</p> <p>Uwe - that work has been started and is underway.</p> <p>MNR – Is Xeneca looking for a FIT extension?</p> <p>Uwe - it is being considered, but comes with some conditions that are not favourable.</p> <p>MNR - can provide some support for this if required. MNR is concerned that timelines are short, not enough time to collect/provide baseline data. Inundation affects down to Groundhog River, potential affect to sturgeon that spawn at 6 Mile Rapids. A mining company that has requirement to compensate. Mercury methylation and fish contamination issues discussed as well as recreational fishing, etc. MNR concerned that timeline does not allow for all of this data collection. Need to get baseline data collection done to date submitted and what is planned.</p> <p>Uwe/NRSI - following presentation on the river is to discuss this. The purpose of the meeting is to get the process started. There is more work and consultation required. Xeneca is electing to do this as a staged approach to deal with issues as they are raised instead of trying to provide all the information at the end of the process. Projects will have impacts, but want to make smart solutions and not miss the obvious fixes.</p>	
<p>MNR - does The Chute get moved into medium priority if projects are addressed in a single EA?</p> <p>Uwe – yes, potentially.</p> <p>MNR – What is the erosion potential downstream of projects? Did not see discussion on this in the operating plan. How does Xeneca plan to baseline the sediment regime of the river downstream of the projects?</p>	

Item	Action By
<p>Uwe - this will have to be studied but need to make sure we are discussing the same issue. Projects will not increase flow downstream, will potential cause effects from modified run-of-river pulsing.</p> <p>Steve - orientation of project is very important based on past experience where operating project is on eroding bank.</p>	
11:50 Dave Green presentation started on Ivanhoe River.	
<p>MNR (Kris) - Glad to see that invertebrate work is starting this year. Want to make sure that local outfitters are covered by maintaining fish populations. Yields need to be maintained post project. There is a major feeding bed near the site. In June 10, 2010 (letter) and at Jan 26, 2011 (meeting) 80% exceedance flows downstream of the sites discussed where 0.5 m³/sec shown in operating plan. Need to discuss/agree on flows. Depending on level will adjust the baseline data requirements. 80% exceedance was an educated guess on the flows required to maintain downstream habitat. Need to discuss flows/habitats because MNR is concerned that earlier discussions may not have been reflected in operating plans.</p> <p>Uwe – also need to have discussion around seasonal requirements. How do we make the best of the conditions we have.</p> <p>Want to know what is there, what is area being used for, what is impact on benthic invertebrates, etc., what will happen to it. Need that data for location approval.</p> <p>Sajjad added that scientific background supports this flow for maintaining habitat. Sajjad mentioned unsteady flow modeling, share with biologists to help with minimum flow questions and negotiations.</p>	Xeneca
<p>MNR – Was a bottom draw dam considered for temperature management?</p> <p>Uwe - no. Consider that to be more of a detailed design or later stage decision.</p> <p>MNR - Need to have design engineers at table to discuss options at these meetings. Uwe agreed.</p>	
13:25 Nava started engineering presentation on Wanatango.	
Wanatango - 4.6 MW, 9 m, 50 m³/s. Carrying forward two options with different headpond levels because of private land concerns/impacts. Have a smaller head option in case land concerns can't be resolved.	
<p>MNR (Rich) - mentioned that OPG released zero flow downstream of Fredrickhouse Dam last year for approximately 3-4 months.</p> <p>Uwe – have had discussions with OPG. Power line for project may be run past Fredrickhouse Dam so that they can power the dam for control. Currently no power and only stop log management.</p> <p>MNR – There was no water for fishing or recreation in the impoundment area and had to cut off flow. Uwe added that Larder had the same issue last year.</p>	
13:35 Dave started environmental presentation on Wanatango.	
<p>MNR – what is scope of terrestrial investigations?</p> <p>Dave - Initial study done in 2010, no change to inundation area. Study considered complete.</p>	
<p>MNR - confirming that fish flesh will be tested for mercury.</p> <p>Dave - yes, mortalities from 2011 program will be used and will harvest more if required.</p>	

Item	Action By
<p>MNR concerned about late presentation of options, changes from project descriptions.</p> <p>Uwe - discussed mixed feedback initially. Xeneca was told not to table the raised option earlier if land deal not resolved with Tembec. Likely should have been tabled anyway.</p>	
<p>MNR – found that terrestrial information provided to date was vague w.r.t. species. Cannot identify if regional/provincial/federal species affected. Also concerned about upstream/downstream concentration of field work.</p>	
<p>MNR - Want to understand how whole system functions. With one project in Kapuskasing, 4 Hydromega projects being added and Xeneca projects being added MNR wants to assess whole system instead of just isolated projects/areas.</p> <p>Uwe - discussed general timeline constraints. Will work to get data to agencies as it comes in. Regarding dealing with Kapuskasing river as a whole – it is considered a general use river. Need to resolve conflicting priorities in province w.r.t. conservation, protection and development.</p>	Xeneca
<p>MNR - Kapuskasing Outlet - concern expressed regarding access to Kapuskasing Lake. Remote outpost site, tourism, has to remain remote. Also have significant cultural sites on Kapuskasing Lake with burial areas, etc. Issues in past with increased erosion and will need to show how erosion on the lake has been assessed/ addressed.</p> <p>Uwe - received letter from MNR discussing wetland on Kapuskasing Lake that will have to be addressed. Stakeholders have raised issue of access to lake. These issues will be discussed in the EA.</p>	Xeneca
<p>MNR - would like to see longitudinal section of inundation area once preferred option has been selected to see if there are any areas that are not regulated still.</p> <p>Uwe – Xeneca has this from LIDAR and HEC-RAS and using to assess if rapids are left for benthics, etc. HEC-RAS can show surface and subsurface profile so water depths can be assessed. Profiles will be shared with agencies.</p>	
<p>MOE(Paula) - asked for walk through of how an option will be assessed. Will need to assess whether or not it will be viable to go ahead with multiple options in EA. If not making a decision on a preferred alternative pre-EA, have to make sure that issues and mitigation have been assessed for all of the options. Asked why options are still on the table at this stage?</p> <p>Uwe - OWA class EA process allows for options. Two reasons to change a layout; environmental constraints or geotechnical information. Access is another issue and do not have all the data needed to decide on a final design. This is why EA process allows for options.</p>	
<p>MNR - What is assessment of how Xeneca will affect Hydromega since they are all run-of-river (not modified)? MNR has to protect their interest now that they have permits.</p> <p>Nava – with 30 km between proponents there is a lot of room for attenuation and do not expect to have much effect. Xeneca will do modeling work to confirm. By regulating flows it may actually help Hydromega's operations.</p> <p>Sajjad – Hydromega has already selected turbines and operating flows. Xeneca may not really help their operation unless flows fit into their operating range.</p> <p>Uwe - unsteady flow models were generated for exactly this reason. Can resolve</p>	Xeneca

Item	Action By
<p>once minimum flows have been addressed.</p> <p>MNR - From a biology perspective, have negotiated with proponent downstream (Hydromega) to assess flows when Xeneca projects were not in consideration. LRIA permits provided based on non-peaked or modified flows. Frustrating that flows will now be different.</p> <p>Uwe – understands the frustration and recommended this issue be resolved later. Again, do not think there will be much effect from the projects given 30 km of attenuation.</p>	Xeneca
<p>14:45 Noel started presentation on Kapuskasing River projects.</p>	
<p>MNR(Dave) – Would like to have an answer as to why walleye are using Buchan Falls (Lapinagam). Numbers seem to be too large. Fragmentation of habitat is a concern with projects considered downstream. Is it a food source and what is the productivity of the food source. Concerned that these questions need to be answered before location approval can be addressed. Also concerned about agencies dealing with consultants and not aware if proponent (Xeneca) has bought into the process. Management goals will be provided to Xeneca.</p>	MNR
<p>MNR – question on fish migration.</p> <p>Uwe - unless fish migration is discussed, assumption is that the project is a barrier to migration. The only site where passage is being considered right now is Big Eddy due to eel, sturgeon, etc. In general fish passage hasn't been provided on waterpower projects. Inquiry into MNR for Thornbury project and other passage designs that have been approved by MNR. No response yet. Fish passage will be discussed, but there has to be real merit to the results. If fish are moving along a long reach to access a specific spawning area, this could be the driver, but if there are a lot of spawning areas along a reach and projects are isolating sections but there are still spawning opportunities the issue could become more of a genetic diversity issue.</p> <p>MNR - EA process is for proponent to advise whether or not passage is happening by tagging and assessing to see if this is an impact that needs to be addressed in report.</p> <p>Kristi - Petawawa discussed as an example and trying to prove a negative does not work very well. By tagging sturgeon and having none pass does not prove they will not ever pass.</p> <p>MNR - last year was lowest recorded flows on record at Kapuskasing Lake Outlet. Reviewing fisheries data from this year is critical to review how applicable the data is.</p>	
<p>MNR – Current fish habitat protocol between MNR and DFO is that passage is upstream and downstream.</p> <p>DFO added that they rely heavily on fisheries management objectives of fisheries manager, in this case MNR. If fisheries manager says that passage is critical to maintain the viability of the stock/habitat, DFO will follow up with this requirement as required by federal regulations. Will be practical though when considering projects on a waterfall or old/existing facility where there clearly is not passage. Will not ask for passage in future.</p>	
<p>MOE(Sajjad) - asked about experience with fish passage in past, any data summarizing effectiveness.</p> <p>DFO - some research has been done to assess, report (provided to Uwe) that showed less than positive data on how well they operate.</p> <p>Sturgeon passage upstream/downstream became an issue on Namaken project, dealt with in a workshop approach. Fishways can be successful in moving sturgeon.</p>	

Item	Action By
<p>Not concrete channels, but more natural rocky ramps.</p> <p>Steve(MNR) - natural channel design requires enough flow that is likely above and beyond what has been discussed to date on minimum release for these projects.</p>	
<p>15:55 Nava started Middle Twp. engineering presentation</p>	
<p>Middle Twp. - 5 MW, 13.5 m head, 50 m³/s, 7.2 km headpond reach.</p>	
<p>MNR (Pat) - question on pre vs. post inundation areas. Increase of 18 ha to 50 ha.</p> <p>Nava – based on natural vs. added inundation area shown on mapping.</p> <p>Pat added that inundation area changed between November 2010 report and now (12 ha to 50 ha).</p> <p>Nava - initially used static inundation, now using HEC-RAS modeling to refine the areas.</p> <p>Uwe – added that changes in areas seem too large and could be due to a difference in terminology between what engineering is considering to be new inundation and what biologist/consultants define as inundation. Will take this concern back to resolve.</p>	Xeneca
<p>MNR(Rob) – Suggested that Xeneca start looking at cascading effects of multiple projects. Changes in inundation areas may have larger implications. Discussed cascading effects w.r.t. dam break. Have to look at lower project first and design for higher hazard if other projects cascade down. Affects zone of influence of EA. If end up outside of this area during EA process, have to start over again. Design flows would change if projects become cascading.</p> <p>Nava - IDF/dam break/downstream effects are assessed later on when design becomes more detailed.</p> <p>Rob added that if plans/specs were tabled in approval stage and were not right, it will get sent back to EA stage. MNR advised to classify sites at this stage so classification does not have to be revised later on.</p> <p>Sajjad asked what MNR opinion is for flow consideration to assess zone of influence at EA stage. MNR answered that Xeneca should use the flow that captures the worst case scenario for the site. Biology and land ownership issues have to be addressed at EA.</p> <p>Nava - 1:100 is design flood used for EA process.</p> <p>Rob - If IDF is 1:500 yr for a site, should work up to these higher levels, carry that through. Nava agreed that this would be valuable to assess now.</p>	Xeneca
<p>MNR(Dave) - Regarding location of powerhouse and tailrace orientation, why not in middle of river.</p> <p>Uwe/Zach - for access, not only during construction but long term for operations and maintenance as well. Reduction of concrete/construction cost for smaller projects is also a factor.</p>	
<p>MNR(Pat) - question about construction method/materials. Rolled Compacted Concrete (RCC) identified in PD. Is this still the plan?</p> <p>Uwe – Don't want to specify at EA stage. Would be more at the plans/specs stage. The concept designer thought RCC was most likely when considering project at the concept stage.</p>	
<p>Near North Boundary - 3.75 MW, 9 m, 60 m³/s</p>	

Item	Action By
<p>MNR(Dave) – Is Xeneca trying to maximize peaking ability at this site given the capacity/ minimum flow numbers?</p> <p>Uwe – Modified Run-of-River (MROR) is the chosen operating mode for permitting but with 5 ha of storage area there is very little storage (1-3 hours potentially at Q_{min}).</p> <p>Dave – in summer operation will likely have 2-3 months where flows are always below Q_{min} of 18 m³/s. Can Xeneca use multiple smaller units instead?</p> <p>Uwe - multiple units are being considered, but it is a cost impact. Also considering that single higher flow unit is largest impact and if Xeneca decides to change to multiple smaller units later it will be less impact and should be an easier amendment than amending the other way.</p>	
<p>MNR – How have the units been sized?</p> <p>Uwe - sizing assessments have been done and multiple unit scenarios were ruled out initially. Will be going out for turbine-generator pricing this summer and will determine whether or not multiple units are viable.</p>	
<p>MNR - has bathymetry been done?</p> <p>Uwe - above ground topography done with LIDAR, below surface by boat with depth sounders. Seven cross sections done upstream/downstream. Data used to calibrate HEC-RAS models.</p>	
<p>MNR(Dave) - regarding fragmentation of rivers, can bathymetry be used to assess habitat areas in headponds and isolated reaches?</p> <p>Uwe - yes, bringing habitat data and engineering data together.</p> <p>DFO – how were seven cross section locations chosen?</p> <p>Uwe - done primarily as calibration sections. Interpolated other cross sections from HEC-RAS model.</p> <p>DFO - seven sections are known, but other/interpolated sections likely don't have enough detail to identify riffles/pools left behind after inundation. Suggested that riffles/pools be targeted for cross-sectioning in next phase.</p>	Xeneca
<p>MNR(Steve) is substrate material assessment part of the plan? Have flows/depths but to move to habitat modeling need to know the substrate and how it might change with inundation.</p> <p>Hatch – substrate testing has been done throughout inundation area.</p> <p>Steve - Brown bullheads encountered in netting?</p> <p>Hatch - no.</p>	
<p>16:45 - Nava started engineering presentation on Four Slide/McCarthy</p>	
<p>Four Slide - 7.3 MW, 29 m head, 23 m³/s, 6.8 km headpond reach, large inundation area (150 ha) will not affect upstream lake</p> <p>McCarthy Chute - 2 MW, 7 m head, 36 m³/s, lake connected.</p>	
<p>MNR(Rob) - Question about lake effect on McCarthy. Understanding from early on was that there would be no connection/no effect on lake levels. Currently showing connectivity of lake and river and this is in contravention of policy and applicant of record award. Do not have leeway to mitigate or minimize, need to neutralize the impact showing that there is no connection to the lake. MNR added that IDF has to be used for modeling.</p>	Xeneca

Item	Action By
<p>(NRSI)Rob - From biologist perspective, talking about a zone of fluctuation of 4 inches, equivalent to wind set-up on a windy day. Cannot see how that will affect trout if that is the purpose of the policy.</p> <p>MNR(Greg) - given loss of lake trout, policy is no disposition of MNR land on lake trout lakes. Precautionary policy/approach because the resource is stressed. Regarding biological perspective, understandable that effect is minimal. Problem is the precedence that would be set. This project may not be an issue, but precedence is the concern.</p> <p>Uwe - asked for confirmation of what makes a lake trout lake.</p> <p>MNR - water temperature, depth, oxygen levels, low nutrient levels, etc.</p> <p>MOE(Paula) – summarized that for this site to proceed, needs to be designed not to connect into lake up to IDF.</p> <p>Uwe - adherence to policy and "no impact" approach will be taken back. Xeneca has been working towards a no impact principle with a hydraulic scheme and operating scheme that would not impact the lake.</p>	
<p>MNR - Question about Four Slide dam location, output, inundation. Also concerned about connection with Pecor Lake which is another lake trout lake. Difficult to review with changes in data between reports.</p> <p>MOE(Paula) added that Xeneca is working on many different projects and trying to get data out. Important to communicate updates to everyone. There is also a concern with public perception when data changes.</p> <p>Uwe - PDs were submitted early on to give agencies an early look at projects and in some case draft information was provided and expectation that some changes would occur. Will look into some of the changed numbers that seem very drastic between earlier reports and current design. Based on LIDAR data very confident that Pecor lake is not affected by Four Slide inundation.</p> <p>Nava added that flows and information are being refined.</p> <p>Uwe - since hydrology was done 1 year ago, another round has been done with daily average flows instead of using instantaneous flows. Other change has been turbine/output assessment refinement.</p>	
<p>Paula - need to communicate which documents/information have changed in a summary format.</p> <p>Inundation map on presentation is the same that was used for field program.</p> <p>Discussed the 1 km move of project site.</p> <p>MOE(Paula) asked about consultation plans for projects. Some initial consultations done. Does Xeneca plan to re-present changes? Explained their dual role of technical review as well as advisory role to public.</p> <p>Uwe – yes, Xeneca is going to a second round of PICs. There is a 3 person team in the office that deals only with stakeholder consultation. Will make sure that information that was given to public was accurate and not significantly changing and will go out to public again if that is the case.</p>	Xeneca
<p>17:35 Rob presenting on environmental aspects of McCarthy.</p>	
<p>MNR - suggested that Xeneca should be using the Significant Wildlife Habitat: Technical Guide for this work.</p>	NRSI

Item	Action By
Rob - have not used yet but starting to review it now.	
<p>MNR(Steve) – asked regarding natural fluctuations of lake and trying to assess this.</p> <p>Rob - based on observations of lake trout spawning. Want to assess elevations of these areas and report on this with the operating fluctuations.</p> <p>Steve – raised issue of data from last year that may not be as applicable in long term.</p> <p>Robert - shoals are known, including main shoal. Will be surveying grades, depths, substrate again this year.</p>	
<p>MNR(Greg) asked about observation methods</p> <p>Rob - did not do depth transects. Did gill netting/observations. Do not know the depths that eggs were placed on.</p> <p>Greg - has seen on lakes in Muskoka where egg transects done that showed eggs at much different location than expected.</p>	
15:50 Robert presented on environmental aspects of Four Slide.	
<p>Question about walleye spawning assessment</p> <p>Rob - will include egg mats this year.</p>	
<p>MNR(Steve) – Regarding brook trout populations in tributaries, are there plans to visually investigate tributaries, redds, substrate size?</p> <p>Robert – yes, once limits of inundation provided by engineering side. Substrate, size of tributaries, etc. are not in the plan right now.</p> <p>Steve - this is typically missed in most EAs.</p> <p>NRSI(Dave) - brook trout was 1% of catch, and although angling only is not typical sampling method, water was so clear that could see bugs and everything. Fairly confident that not much was getting through un-observed.</p>	
<p>MNR(Greg) - observation on size of impoundment vs. size of watershed. May want to think more about overall ecosystem downstream regarding relative impacts.</p> <p>Measured oxygen is lower than predicted, close to 7 mg/l.</p>	
<p>Rob - added issue of changing habitat from riverine to lacustrine and potential species changes. Can it be compensated for in the normal way?</p> <p>DFO answered that there are precedents for compensating for this.</p>	
18:10 Uwe and Paula closed.	

NOTES OF MEETING

April 29, 2011

PROJECT Xeneca – FIT Projects
 LOCATION Radisson Hotel – Sudbury, ON
 WRITTEN BY Zach Vorvis / Tami Sugarman

PRESENT See attached

PURPOSE Present and discuss 18 Xeneca Waterpower FIT Projects

<u>Item</u>	<u>Action By</u>
<p>Uwe - started introductory presentation at 9:00.</p> <p>Uwe asked that documents shared with agencies in pre-consultation not be shared with public as they are not final and subject to change.</p> <p>MNR - would Xeneca consider marking the documents confidential?</p> <p>Uwe - considering this given that in the last few days a document was released that should not have been.</p>	Agencies
<p>MOE(Sajjad) – regarding minimum flow identified in the operating reports presented to date - what was the rationale and can this be explained in the reports.</p> <p>Uwe - numbers had to be picked for unsteady flow modeling, etc. Not considered final but were meant to be discussed and finalized.</p> <p>Discussed seasons that flows were based on (hydrograph instead of calendar seasons). Want to look at wetted perimeter calculations with MNR and calculations to review water depths, flow velocities, seasons flow is required, etc.</p> <p>Sajjad - data needs to consider hourly fluctuations in Modified Run-of-River (MROR) sites because flow will be changing at that frequency. Uwe agreed.</p>	Xeneca
<p>MNR(Rich) - need to provide details to district staff on what kind of flows would be available downstream on an hourly basis.</p> <p>MOE(Sajjad) - added that daily flow data has been shown so far, not hourly flow data.</p> <p>Rich - graph of Misema fluctuations presented.</p> <p>Uwe agreed that flows will look similar with a daily fluctuation between Q_{ea} and Q_{max} that are to be discussed with MNR/MOE/DFO.</p> <p>Uwe - need to agree what numbers to use for analysis (for unsteady flow, MROR operation).</p>	Xeneca

Item

Action By

<p>MNR(Steve) added that numbers will be different for each site.</p>	
<p>MOE(Todd) - no starting point to know what wetted perimeter/flow requirements are. Conditions that are not measured and data that we don't know are the issues.</p>	
<p>How many sites are ROR vs. MROR?</p> <p>Uwe - 1 vs. 17, but not quite that clear. Downstream projects that have no storage can't be run as MROR on their own, can only be run this way if upstream projects are MROR.</p>	
<p>Question about MROR sites and operating band.</p> <p>All projects are designed for 20% exceedance flow.</p> <p>MOE(Sajjad) - based on experience, ROR turbines are designed for 50% exceedance, MROR is less.</p> <p>Uwe - these are designed lower because gives more range for modified operation and because projects are small and can only afford single unit. Difference in cost between 3 to 3.5 MW single unit not much.</p>	
<p>How much are other users, operating plants considered in the operating regimes?</p> <p>Uwe - OPG on Ottawa river has been approached, discussing these issues. They are concerned with low water levels on the Ottawa river. Have several projects that are on rivers with water management plans. Dealt with in three places - Stakeholder consultation, land stakeholder consultation and EA process. McGraw project is on a managed waterway and will be incorporated into WMP when it is revised in next 1-2 years.</p>	
<p>Can inundation be mapped at highest level and lowest level and downstream water levels?</p> <p>Uwe, yes, inundation has been done in HEC-RAS modeling.</p> <p>MNR Kirkland advised they have not received HEC-RAS report yet.</p> <p>Nava - downstream inundation mapping has not been done. Have hydraulic information downstream. Mapping downstream could be done.</p> <p>MNR - concern is what areas might be dry with extended ponding as well as, connected wetland areas that might be affected.</p> <p>MNR(Steve) added issues with ramping rates, substrate movement/effect from pulsing of flow is a concern. Would like to see this mapping, more examination of the downstream area. Ground truthing plans.</p> <p>Uwe - this exercise has been undertaken with the bathymetry.</p>	<p>Xeneca</p>
<p>MOE(Sajjad) - regarding calibrating of unsteady flow, need to measure hourly to calibrate. Uwe agrees, but no facility there to monitor the flow.</p> <p>Sajjad added that natural hourly flow data could be assessed to calibrate, although this could not be monitored over the same range.</p>	

ItemAction By

10:20 Nava started engineering presentation on Larder Raven.	
Larder Raven - 1.25 MW, 12.5 m head, 7 cms, lake connected	
<p>Does MNR headpond affect tailwater of project?</p> <p>MNR advised that the Upper Raven dam is scheduled to be decommissioned in the future. The Xeneca dam will replace it and it will have to be removed. The headpond therefore will effectively be 30 km because it will be the length between Xeneca dam and MNR dam + existing headpond behind MNR dam. Old dam downstream of planned Xeneca dam (wood structure) needs to be removed but concrete can stay because of historic value.</p>	Xeneca
<p>MNR - 75% of contributing water to park comes from this river, concern about MROR operating and effect downstream in park and to other MNR weirs downstream.</p>	
<p>Nava - water balance has been done, can be looked at again. Currently do not show any effect on lake downstream.</p> <p>MNR(Rob) - concern is that weirs downstream may become the controlling structures if levels dropped too far.</p> <p>Uwe added that there has been a lot of stakeholder feedback from cottagers on the lake, concerned about water level fluctuations and affect from manual stoplog operation where flows affected for days at a time. Hourly fluctuations from automatic operation at the project could actually improve water balance.</p>	
<p>MNR - stoplogs are operated 1 or 2 times/year. Daily operating will have more affect on biology.</p> <p>Uwe - Xeneca's position is that daily operation will be better for downstream.</p> <p>MNR(Rob) - stoplog structure is never dry. Concern downstream is mostly in spring freshet when cottagers get flooded. In summer flows are less than they would like but never dry. What has been proposed is Monday to Friday operation at this site, concern is weekend non-operating period.</p> <p>Uwe - automatic operation must be better than manual management with stoplogs. Will work with MNR to agree on an operating regime and lake management.</p>	Xeneca
<p>MNR - concerned that operating plan is too generic, no specific details to comment on.</p> <p>Uwe - agrees that specifics need to be agreed on, understand that it is a sensitive system with all of the users, a lot of conflicting requirements/priorities. Want dialogue with MNR to discuss release flows. Bigger questions are seasonal operation and lake level management. MNR jurisdiction to control this.</p> <p>MNR understanding is that Xeneca will not be affecting lake water levels.</p> <p>Uwe - there will be changes up to 10 cm.</p> <p>MNR - concerned that no biology work has been done downstream of the plant, only</p>	Xeneca

<u>Item</u>	<u>Action By</u>
<p>between two lakes.</p> <p>Uwe - yes, but only needs to be done if evidence that there will be an effect.</p> <p>Sajjad added that another proponent modeled 200 km downstream to see what the effect would be.</p> <p>Nava said that depends on size of project/effects.</p> <p>MNR(Rob) added that Xeneca needs to show what are the limits of the effects before agencies can comment on the effects.</p> <p>Uwe clarified that weekly inflow will equal weekly outflow.</p> <p>MNR(Rob) added that operational limits are legal once agreed to and proponent can operate within this limit as they see fit, that is why there is need to put a lot of thought into these limits.</p> <p>Uwe - lakes, for example, have natural level range of 1 m, Xeneca plans to work within this limit. The intent is not to draw down 10 cm incrementally drawing down to a very low level.</p> <p>Uwe – Regarding dam removal, Xeneca is only planning on removing stoplogs.</p> <p>MNR - do not agree with this. Dam removal was a condition of the site release. Dam removal needs to be part of the EA. Cost of removal is by proponent.</p>	Xeneca
<p>10:55 Kristi starting biological presentation on Larder Raven.</p>	
<p>Question about sturgeon at Wendigo</p> <p>Kristi - another proponent has project below Teddy's Falls (MoCreebec FN). WESA and Kristi are working with them on this. Temperature logging is going in this year.</p>	
<p>11:30 Nava starting engineering presentation on Half Mile & Big Eddy</p>	
<p>Half Mile - Nava presented PD layout and proposed alternate with upstream dam and tailrace channel.</p>	
<p>Big Eddy - ROR, 5.3 MW, 9 m, 68 cms, 2.7 km headpond reach</p>	
<p>MNR(Henry) - question about 1:100 yr flood HEC-RAS modelling and what weir elevation was used.</p> <p>Nava - based on lowered obermeyer.</p>	
<p>Question about effects from Half Mile MROR upstream of Big Eddy which is ROR. Should the projects be linked together w.r.t. hydrology?</p> <p>Nava - downstream of Half Mile is Black Bay and another river with more flow. Based on these, expect that effects are minimal on Big Eddy but will confirm with modeling.</p>	
<p>MNR(Tania) - Regarding the bypass reach flows and habitat management. How much of this is up for debate still?</p> <p>Uwe - this is to be resolved still. Two types of bypass flows required at Big Eddy -</p>	

<u>Item</u>	<u>Action By</u>
habitat/fish passage flows and kayaking flows.	
<p>MNR(Joanna) - Concern that weir flows are geared towards kayakers and fish passage is secondary. Also concerned about TC approval of weir and allowing kayakers to use.</p> <p>Uwe - stakeholders at Big Eddy have been very vocal, kayakers have been vocal. Their concerns are being addressed. MNR has provided some direction on the fish passage but this discussion is just starting. On kayak passage, working with Northwest Hydraulics to design a weir that can pass kayakers safely. Modeled on Calgary weir. Working on channelling flows for sturgeon access to weir. Still have to figure out how to get them over the weir.</p>	
<p>MOE (Peter) on phone about stakeholder consultation - has this been done at all projects or only at Big Eddy?</p> <p>Uwe - summarized stakeholder consultation steps so far, PIC coming up. A lot of communication going back and forth with kayakers. Concerned that public has received report that was issued as a pre-consultation draft document and not meant for public release.</p> <p>Also asked about private land, stakeholders, more than what was identified in operating plan.</p> <p>Uwe - these issues will be addressed in the final document. Elaborated that stakeholder consultation has come a long way at Big Eddy. Political rhetoric is still there, but behind the public consultation. Xeneca and kayakers are talking about "how" now instead of "if". Other discussion is with ex-president of Black Bay rate payers association (Al Hepburn).</p>	
<p>MNR(Joanna) - Question about inundation elevation to high water mark and mapping to represent this is not shown.</p> <p>Uwe – HEC-RAS modeling/report is to cover this issue exactly.</p>	
<p>MOE (Peter) on phone on previous public engagement sessions.</p> <p>MNR confirmed they have been invited to all meetings.</p>	
<p>Low flows, management of Ottawa river and OPG discussed.</p>	
<p>MNR(Tania) - concerned about fish habitat and passage at Half Mile. Question about Algonquin Park effect will be an issue to watch.</p> <p>Uwe - discussed Willie creek, known turtle habitat and road upstream that Xeneca will be ensuring not to effect. Discussed that option presented at Half Mile will make fish passage easier if it is required.</p>	
<p>Question about Big Eddy downstream modeling to assess sedimentation and affect on downstream beach area.</p> <p>Kristi – substrate survey was done down to confluence with Ottawa river.</p> <p>Uwe - Big Eddy is ROR and will not affect flows, so should not be affecting sediment.</p>	

<u>Item</u>	<u>Action By</u>
<p>Can pass sediment if necessary with design of weir.</p> <p>Kristi - delta and turn upstream may be the concern and increasing delta size. Some affect from town work with gabions, etc.</p> <p>MNR – also concerned project does not increase erosion due to tailrace orientation.</p>	
<p>MNR(Tania) - Fresh water sponges found?</p> <p>Kristi - have not seen any in 5 years of work on river.</p>	
<p>13:20 Nava presented engineering details of Marter TWP.</p> <p>2.1MW, 12.5 m head, 16 m³/s, 1.7 km headpond reach</p>	
<p>MNR - issue about sturgeon spawning area at confluence with Misema/Blanch rivers. Raised issue of cumulative effects with Misema. Need to coordinate with water management plan. Mentioned possibility of requiring an ESA waterpower agreement to deal with species at risk. Have to deal with riparian rights.</p> <p>Uwe - regarding land process in EA context, in Xeneca's opinion property process is part of LRIA, not EA. Negotiations with landowners is ongoing. Site release status is known, letter received.</p> <p>MNR - riparian owners are a stakeholder, disagree with Xeneca assessment.</p> <p>Uwe suggested this be dealt with separately, have been in discussion with MOE about how this fits into process.</p>	
<p>Question regarding zone of influence downstream of project. Have to take other projects into account.</p> <p>Uwe – Misema is 2km downstream and was taken into account as a ROR plant. Understand now that it is authorized to operate as a peaking facility. Was not aware of the WMP on this river and would like a copy.</p>	MNR
<p>MOE(Sajjad) - asked about biologist involvement. Are they involved up to EA stage? Want to know if there is coordination between biologists and engineers. Ramping rates are critical, etc.</p> <p>Uwe - even when approvals have been received, owner is still liable if there is an adverse affect on the environment. Aware of this and that is why Xeneca wants to build appropriate projects.</p> <p>Uwe - there has been biologist input to the operating plans, but not wholly defined yet and has not been detailed discussion. Example is that Larder now has zero proposed minimum flow because preliminary indication is that 200 m rock channel downstream has no habitat. Will be discussed/reviewed in detail.</p>	
<p>MNR(Lauren) - sediment issues at Marter - important because of sturgeon, brook trout, etc. Ice scour is another big issue.</p>	
<p>13:50 - presentation started by KBM on transmission line/access roads</p>	
<p>Question/comment on using same roads as forest operators (SFLs) where they have</p>	

<u>Item</u>	<u>Action By</u>
<p>access rights through private property. Xeneca will make their own agreements to access through private property.</p>	
<p>Question about when FN consultation would be done. Not by KBM, Xeneca is doing now.</p>	
<p>Question about primary vs. tertiary roads. KBM - following existing roads as much as possible and are aware of long term access routes. Tertiary roads are shorter term, expected to be decommissioned in short term and do not want to be following them.</p>	
<p>Wetlands considered but vernal pooling, snake fernacula, etc. need to be considered beyond wetlands. Will consult with district staff to resolve this.</p>	
<p>MNR Sudbury – were information packages provided to Xeneca in site release process provided to KBM? KBM(Dave) – not yet, have not asked for that information.</p>	
<p>Regarding ground-truthing - have information from SFLs on primary, secondary, tertiary. Need to assess for condition. MNR suggested that MTO does a lot of work on transmission line routing and KBM should talk to an MTO official about their ground-truthing.</p>	
<p>14:10 - Nava started engineering presentation on Wabageshik 3.4 MW, 6 m head, 64 cms, 1 km headpond reach</p>	
<p>MNR(Pat) – What geotechnical information is driving the option revisions? Uwe - move was based on identification of a spawning bed and large gravel esker identified at current location. Geology can vary over small differences – this gravel bar esker needs to be protected and that is not a stable basis for construction so we need to avoid it.</p>	
<p>MNR(Wayne) – Did the shift upstream make this a lake-coupled project? Uwe - project was supposed to be coupled before and after, no change to elevation. Agreed that if this has changed will have to go back to the public. MNR Eric Cobb - Is it lake-coupled? Because the PD did not include this design. Uwe - Was it not? Well we will have to go out to correct that information.</p>	Xeneca
<p>MNR(Rob) – Scour/erosion effect with upstream move? Uwe - this has to be studied further but in general not too concerned about scour because sand has been transported and only gravel/cobble remain. Outflow velocities – will you be looking at this for erosion issues of the gravel bed? Uwe - Flows will be slower in the tailrace than they would have been naturally. The</p>	

<u>Item</u>	<u>Action By</u>
scour is possibly reduced but we will need to look at the velocities over the spawning bed.	
14:40 Robert started environmental presentation on Wabageshik.	
Sturgeon task team discussion. Should be general for all projects. Bob (Sudbury) will discuss with Sandra to set up.	MNR
<p>MNR(Pat) - how will minimum flow be released, has this been considered? How will these minimum flows be provided for fisheries purpose?</p> <p>Uwe – not yet. It will be determined when we have detail design. Could be low flow tube, through plant or allowed to crest over the spillway.</p> <p>MNR has advised other proponents that compensation flows can't be run through turbines because they can be turned off.</p>	
Uwe - clarification – with Option 2 there is a variable flow reach so those discussions need to be had with the regulators.	Xeneca
<p>MNR – need to ensure that you have discussions with other users and operators on the river – Vale</p> <p>Uwe – we have had some discussions with Vale regarding their upstream water intake.</p> <p>– we will get together and share information with them and any data gap issues can be resolved. Domtar is another stakeholder with area downstream.</p> <p>I will check with communications group, and Nava need to follow up on this discussion.</p>	Xeneca
<p>MNR(Wayne) - Upstream option was the most fish friendly which is the option that is not really being considered now. Can it be reconsidered?</p> <p>Uwe - Coupling with lake is a concern including peaking flows. Expect that project will affect quite a bit of reach downstream beyond plunge pool and that this should be looked at. Also concerned about possible effect on walleye spawning when running continuously. Regardless of which option, the confirmed spawning habitat is important to be protected and need to discuss.</p> <p>NRSI(Rob) - when meeting with Wayne will try to have an engineer in meeting.</p>	
<p>MNR - will inundation of the lake be impacted?</p> <p>Uwe - No.</p>	
<p>MNR - Coupling with the lake – is a concern – zone of influence will stop at the plunge point in the lake – I believe it extends to confluences with the Spanish. This is substantial flow fluctuations and is a huge issue to be discussed.</p> <p>MNR(Wayne) - General concern is the issue of downstream zone of influence. If operation between 0.5 and 40 cm/s in 24 hour, Intermittent operations with large flow</p>	

ItemAction By

<p>Uwe – we have a general understanding of spawning area upstream and downstream. We will keep eyes open and keep in mind.</p> <p>MNR - Mike Hall needs to be consulted.</p> <p>Andrew – yes we have talked to him in the past and will do so again.</p> <p>MNR - Concerns raised by Wayne on Vermillion will be an issue here as well and needs to be discussed.</p> <p>Gaps around lake sturgeon passage: has there been discussion to modeling 1 in 100 year flow rate? as they only need one to two opportunities over lifespan for passage.</p> <p>NAVA – have done 100 year, 2 year, and 5 year flood analyses to see if passage would exist under these flow events using the model.</p>	<p>NRSI</p>
<p>MNR – Transmission line and roads are 20 km, and there are a lot of species at risk in this area but no data (Blinding turtles) roads, rattler, spotted turtle. What will be the approach to assess these?</p> <p>Uwe - We do not have roads to access. A lot of survey is required. We will look in detail on aerial photos, but we won't look into detail on corridor because options may change.</p>	
<p>Who is doing that Screening for EA? At EA level – desktop and aerial photos</p> <p>Nava – we can provide that information.</p> <p>For permits – we will do ground truthing once routes are absolutely firmed up.</p> <p>MNR – if there are more options – you need to consider that one area may have higher incidence of impacting SAR than another.</p> <p>Yes – we agree – KBM is conducting the analysis for the routes options – KBM and Xeneca and NRSI will have to decide who is doing final level of analysis for the EA to decide on the preferred option</p> <p>MNR – environmental degradation around these areas – analysis of soil or water what has been done or are there discussions to be had on this?</p> <p>Uwe – Yes, we do surface water only, not soil. This has been identified and we will sit down and talk about how to address this.</p>	<p>KBM and Xeneca and NRSI</p>
<p>MNR – does first nation realize lake sturgeon is there? FN consultation will notify FN ahead if they are to tag species.</p> <p>Nava - Xeneca has a FN person on staff for such notification</p>	<p>Xeneca</p>
<p>MNR - French River is Federal Designated Heritage Waterway – is this a consideration or a barrier for this project or in general for waterpower?</p> <p>Unknown – OEL will check into this question?</p>	<p>OEL</p>
<p>Presentations From upstream to downstream:</p>	

<u>Item</u>	<u>Action By</u>
<p>Vermilion – McPherson Falls</p> <p>Vermilion - Cascade Falls – two options being considered.</p> <p>Vermilion – At soo Crossing.</p>	
<p>Highway 17 and a railway line are close to site. We input data and run the model. It won't impact the highway.</p> <p>MNR - Is the railway a big deal? Is it possible for building construction on rail?</p> <p>Need to consult with Canadian Transportation Agency due to the active railway line crossing.</p> <p>CN – railway line needs to be consulted.</p> <p>MTO – effect on bridge needs to be consulted.</p> <p>Land agreement with Vale in process</p>	Xeneca
<p>MOE – Sudbury intake pump house – Where is the intake? Is the lake deep and how wide is it? How much will be released when shut down?</p> <p>Nava – 400 m wide and 500 m long. Xeneca has limited information of the depth around intake area from the bathymetry survey. Need to consult with them about intake details and operations. Need to have MOE provide information on the PTTW.</p> <p>Xeneca – agree we need to consult with Greater Sudbury about this intake and our operation regime.</p>	Xeneca MOE
<p>Xeneca intends to meet with regional level MNR and other agencies on an on-going basis.</p> <p>Biologists are meeting to fine tune the workplan that has been developed and approved by Xeneca for the variable reach.</p> <p>Sandra – remind Xeneca to notify agencies when new data is available.</p> <p>Paula – to add – please indicate what the change has been.</p>	Xeneca
<p>Closing</p> <p>Ed, Grant, Sandra, Mary Ellen and Paula should sit down to narrow out next steps.</p> <p>Thank You- our meeting these two days was very helpful and successful and we look forward to meeting with MNR districts starting next week to conduct scoping reviews for the proposed 2011 field programs.</p>	

Attendees for Xeneca FIT Projects Meeting on April 28, 2011

Name	Position	Organization	
1	Mike Mable	Reserve Analyst	MNR Northeast Region
2	Tim Mutter	Dist. Planner	MNR Chapeau
3	Dave Barbour	Planning Biologist	MNR Kapuskasing
4	Kris Vascotto	Planning Biologist	MNR Chapeau
5	Laurie Brownlee	EA Coordinator	MOE Northern Region (Sudbury)
6	Zach Vorvis	Engineering Consultant	CPL
7	Lianne Kentish	Env Officer	MOE Timmins District
8	Paula Allen	APEP Supervisor	MOE Sudbury Regional Office
9	Todd Kondrat	Surface Water Specialist	MOE Northern Region
10	Mohammad Sajjad Khan	Hydrologist	MOE Northern Region
11	Grant A Ritchie	Manager, NER Planning Unit	MNR Northeast Region
12	Lisa Keable	Renewable Energy Biologist	MNR Sault Ste. Marie
13	Kim Mihell	Renewable Energy Planner	MNR Sault Ste. Marie
14	Tami Sugarman	EA Coordinator	OEL Hydrology Inc /Wesa
15	Bill Touzel	EA Coordinator	OEL Hydrology Inc /Wesa
16	Greg Deyne	Sr. Regional Fisheries Biologist	MNR Northeast Region
17	Pat Cantin	Professional Quantity Surveyor	MNR NER Eng. Unit
	Muhammad Jahan Zeb		
18	Khan	Engineering Technologist	MNR NER Eng. Unit
19	Rob Schrybart	Senior Project Engineer	MNR NER Eng. Unit
20	Allan Chow	Engineering Supervisor NE-NW	MNR NWR Eng Unit
21	Rich Pryce	Hydrologist	MNR NE Science Information
22	Sandra Dossier	Renewable Energy Coordinator	MNR NE Region
23	Robert Steele	Principal, Senior Aquatic Bio.	Natural Resources Solutions Ontario Resources Management Group
24	Kristi Beatty	Project Manager	Ontario Resources Management Group
25	Lise Uskov	Wildlife Technician	Natural Resources Solutions
26	Dave Green	Senior Project Manager	Natural Resources Solutions
27	Brett Woodman	Senior Project Manager	Natural Resources Solutions
28	Ed Laratta	Mgn. Env. Services	Xeneca Power Development Inc
29	Andrew Schiendel	Aquatic Biologist	Natural Resources Solutions
30	Robin Stewart	Planner Planning & Information	MNR Cochrane District
31	Denis Clement	Supervisor	MNR Cochrane District
32	Dave Thomson	Consultant	KBM Thunder Bay
33	Stephane Audet	Consultant	KBM Thunder Bay
34	Carl Jorgensen	Biologist	DFO Sudbury
35	Jennifer Hallett	Biologist	DFO Sault Ste. Marie
36	Uwe Roeper	CEO	Xeneca Power Development Inc
37	Steve McGovern	Aquatic Biologist	MNR NESI S. Porcupine
38	Noel Boucher	Biologist	Hatch
39	Grace Yu	EA Coordinator	Xeneca Power Development Inc
40	Marty Blake	D.M	MNR SSM District
41	Bill Greenaway	Supervisor	MNR Kapuskasing

Attendees for Xeneca FIT Projects Meeting on April 29, 2011

Name	Position	Organization
1 Bob Robinson	RE	MWR Sudbury
2 Edmund Laratta	Manager of Environmental Affairs	Xeneca Power Development Inc
3 Eric Cobb	SAR Biologist	MNR Sudbury
4 Bruce Richard	Planning & information Supervisor	MNR Sudbury
5 Nava Pokharel	Project Manager	Xeneca Power Development Inc
6 Tania Baker	Area Biologist	MNR Pembroke
7 Joanna Samason	Water Resources Coordinator	MNR Pembroke
8 Karen Handford	Planning & IM Supervisor	MNR Pembroke
9 Sandra Dosser	NE Region Renewable Energy Coordinator	MNR South Porcupine
10 Rich Pyrcce	Hydrologist	MNR NESI S. Porcupine
11 Pat Cantini	Professional Quantity Surveyor	MNR NER Engineering Unit
12 Henry Haemel	Sr. Project Engineer	MNR South Reg Eng Pho
13 Allan Chow	Engineering Services Supervisor	MNR NE region Timmins
Muhammad Jahanzeb		
14 Khan	Engineering Technologist	Ontario Resource Management Group
15 Lisa Uskov	Wildlife Technician	Ontario Resource Management Group
16 Kristie Beatty	Project Manager/ Biologist	Ontario Resource Management Group
17 Rob Steele	Project Manager/ Biologist	NRSI
18 Stephane Audet	Consultant	KBM
19 Dave Thompson	Sr. Consultant	KBM
20 Todd Kondrat	Surface Water Specialist -Troop Leader	MOE - Thunder Bay
21 Rob Schryburt	Sr Project Engineer	MNR North East Region
22 Rick Gordon	District Planner	MNR KLK district
23 Lauren Mc Donald	Management Biologist	MNE Kirkland Lake
24 Grace Yu	Ea Coordinator	Xeneca Power Development Inc
25 Andrew Scheidel	Aquatic Biologist	Natural Resources Solutions Inc
26 Jennifer Hallett	Habitat Biologist	Fisheries & Oceans Canada MNR Renewable Energy Program
27 Leala Pomfret	Renewable Energy Program Advisor	Team
28 Kelly Eggers	Habitat Biologist	Fisheries & Oceans Canada
29 Rod Sein	Surface Water	MOE
30 Lianne Kentish	Environmental Officer	Moe Timmins
31 Paula Allen	APEP Supervisor	MOE Sudbury
32 Mohammad Sajjad Kahn	Hydrologist	MOE Sudbury
33 Michael Malek	Resource Analyst	MNR NER
34 Grant Richie	Manager Northern Region Planning Unit	MNR NER
35 Tami Sugarman	EA Coordinator	OEL hydro Sys Inc/ Wesa
36 Bill Touzer	EA Coordinator	OEL hydro Sys Inc/ Wesa
37 Marty Blake	DM	SSM MNR
38 Greg Deyne	Sr. Regional Fisheries Biologist Engineering Consultant - Project	MNR North East Region
39 Zach Vorvis	Manager	CPL
40 Mary Ellen Stoll	Manager NESI	Science & Information Branch MNR
41 Steve McGovern	Sr. Biologist	NESI, Timmins MNR
42 Carl Jorgensen	Biologist	DFO Sudbury

Ministry of Natural Resources

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Tél : 705-864-1710
Télééc.: 705-864-0681



May 17, 2011

RECEIVED
MAY 20 2011

Xeneca Power Development Inc.
5160 Yonge Street, Suite 520
Toronto, ON
M2N 6L9
Attention: Patrick Gillette – President and CEO

SUBJECT: Update regarding proposed Non-Competitive Site Release Application for Waterpower Development –
a) Ivanhoe River, The Chutes, in Oates Township, and
b) Ivanhoe River, Third Falls, in Belford Township

Dear Patrick Gillette,

Thank you for participating by telephone in the Site Information Meeting regarding site release for the two proposed Ivanhoe River water power sites on Jan 27, 2011. On that date, Mark Holmes and Arnold Chan submitted the Waterpower Applicant Declaration Form for the Chutes and the Third Falls sites on the Ivanhoe River, as per Procedure 4.10.05, Waterpower Site Release – Crown Land. I am writing to outline the next steps in Aboriginal engagement and consultation for the site release and environmental assessment processes, and to clarify MNR's responsibilities versus Xeneca's responsibilities.

As per the Site Information Package, there are both Local Aboriginal Communities (LAC) and Identified Aboriginal Communities (IAC) associated with this site. The IACs include:

Brunswick House First Nation,
Chapleau Cree First Nation,
Chapleau Ojibwe First Nation and
Mattagami First Nation,

The LACs include:

Flying Post First Nation,
Taykwa Tagamou First Nation and
Metis Nation of Ontario –Timmins Council.

In addition, there are two more Aboriginal communities who must also be notified as part of the Water Power Class EA of this project. These two communities must be notified of this project proposal due to past interest they have indicated in these types of projects and/or the geography of the project:

Michipicoten First Nation and
Moose Cree First Nation.

The District has notified the IACs and the LACs of Xeneca's decision to proceed with the site release and the next steps in the process.

Xeneca is responsible for engaging the IACs in business to business discussions. The 180 day engagement period formally commenced with the submission of the Applicant Declaration Form. Xeneca must provide regular status reports to the District on the progress of the engagement with the IACs and a final report at the end of the engagement period. To date, Chappleau District has not received any status reports on the business to business discussions regarding the Ivanhoe River sites. Chappleau District may also independently communicate with the IACs during this engagement period to track progress.

At the end of the 180 day engagement period, the District Manager will assess the efforts made by both Xeneca and the IACs to reach an agreement, based on Xeneca's final report and feedback from the IACs. Based on this assessment, the District Manager will proceed with one of the following options:

- Allow the Site Release to proceed;
- Provide additional time, as specified by the District Manager, for Xeneca and the IACs to reach an agreement; or
- Cancel the Site Release, with explanation

Concurrent with Xeneca's site release process is the Water Power Class Environmental Assessment. Xeneca must undertake to consult with all of the above identified communities as part of the environmental assessment for this project. Xeneca must provide regular status reports to the District on the efforts and substance of the consultation with the communities, and provide a final report at the end of the engagement period. To date, Chappleau District has not received any status reports regarding consultation discussions regarding the Ivanhoe River sites. Any information that the District receives from the Aboriginal communities pertaining to concerns and interests with these sites will be forwarded to Xeneca for consideration during the environmental assessment process, and will be considered as the Ministry seeks to fulfil its duty to consult.

If you have any questions about the above, or if you would like to meet with District staff to discuss further, please contact Susan Collins Lindquist, Resource Liaison Specialist, at 705-864-3120, susan.lindquist@ontario.ca

Sincerely,



Paul Bernier
District Manager
Chappleau District

\scl

cc: Xeneca - Dean Assinewe – Aboriginal Relations Liaison
MNR - Susan Collins Lindquist – Resource Liaison Specialist
MNR - Tim Mutter – District Planner

Ministry of Natural Resources

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Tél : 705-864-1710
Télééc.: 705-864-0681



May 17, 2011

RECEIVED
MAY 20 2011

Xeneca Power Development Inc.
5160 Yonge Street, Suite 520
Toronto, ON
M2N 6L9
Attention: Patrick Gillette – President and CEO

SUBJECT: Update regarding proposed Non-Competitive Site Release Application for Waterpower Development –
a) Ivanhoe River, The Chutes, in Oates Township, and
b) Ivanhoe River, Third Falls, in Belford Township

Dear Patrick Gillette,

Thank you for participating by telephone in the Site Information Meeting regarding site release for the two proposed Ivanhoe River water power sites on Jan 27, 2011. On that date, Mark Holmes and Arnold Chan submitted the Waterpower Applicant Declaration Form for the Chutes and the Third Falls sites on the Ivanhoe River, as per Procedure 4.10.05, Waterpower Site Release – Crown Land. I am writing to outline the next steps in Aboriginal engagement and consultation for the site release and environmental assessment processes, and to clarify MNR's responsibilities versus Xeneca's responsibilities.

As per the Site Information Package, there are both Local Aboriginal Communities (LAC) and Identified Aboriginal Communities (IAC) associated with this site. The IACs include:

Brunswick House First Nation,
Chapleau Cree First Nation,
Chapleau Ojibwe First Nation and
Mattagami First Nation,

The LACs include:

Flying Post First Nation,
Taykwa Tagamou First Nation and
Metis Nation of Ontario –Timmins Council.

In addition, there are two more Aboriginal communities who must also be notified as part of the Water Power Class EA of this project. These two communities must be notified of this project proposal due to past interest they have indicated in these types of projects and/or the geography of the project:

Michipicoten First Nation and
Moose Cree First Nation.

The District has notified the IACs and the LACs of Xeneca's decision to proceed with the site release and the next steps in the process.

Xeneca is responsible for engaging the IACs in business to business discussions. The 180 day engagement period formally commenced with the submission of the Applicant Declaration Form. Xeneca must provide regular status reports to the District on the progress of the engagement with the IACs and a final report at the end of the engagement period. To date, Chappleau District has not received any status reports on the business to business discussions regarding the Ivanhoe River sites. Chappleau District may also independently communicate with the IACs during this engagement period to track progress.

At the end of the 180 day engagement period, the District Manager will assess the efforts made by both Xeneca and the IACs to reach an agreement, based on Xeneca's final report and feedback from the IACs. Based on this assessment, the District Manager will proceed with one of the following options:

- Allow the Site Release to proceed;
- Provide additional time, as specified by the District Manager, for Xeneca and the IACs to reach an agreement; or
- Cancel the Site Release, with explanation

Concurrent with Xeneca's site release process is the Water Power Class Environmental Assessment. Xeneca must undertake to consult with all of the above identified communities as part of the environmental assessment for this project. Xeneca must provide regular status reports to the District on the efforts and substance of the consultation with the communities, and provide a final report at the end of the engagement period. To date, Chappleau District has not received any status reports regarding consultation discussions regarding the Ivanhoe River sites. Any information that the District receives from the Aboriginal communities pertaining to concerns and interests with these sites will be forwarded to Xeneca for consideration during the environmental assessment process, and will be considered as the Ministry seeks to fulfil its duty to consult.

If you have any questions about the above, or if you would like to meet with District staff to discuss further, please contact Susan Collins Lindquist, Resource Liaison Specialist, at 705-864-3120, susan.lindquist@ontario.ca

Sincerely,



Paul Bernier
District Manager
Chappleau District

\scl

cc: Xeneca - Dean Assinewe – Aboriginal Relations Liaison
MNR - Susan Collins Lindquist – Resource Liaison Specialist
MNR - Tim Mutter – District Planner

Ministry of Natural Resources

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Télééc.: 705-864-0681



May 17, 2011

Chief Anita Stephens
Chapleau Ojibwe First Nation
P.O. Box 279
Chapleau, ON P0M 1K0

SUBJECT: Update regarding proposed Non-Competitive Site Release Application for Waterpower Development –
a) Ivanhoe River, The Chutes, in Oates Township, and
b) Ivanhoe River, Third Falls, in Belford Township

Dear Chief Stevens,

Further to our previous letter of June 22, 2010 on the subject application, this letter is to advise of Xeneca Power Development Inc's decision to continue to proceed with the site release process for the proposed water power development on the Ivanhoe River in Oates and Belford Townships.

The next step in the site release process is for the applicant to engage the Identified Aboriginal communities listed below, with the intent of establishing a business to business relationship in support of this project. It is our understanding that this dialogue is already underway with your community. The applicant (Xeneca) will be required to report to the Chapleau District Manager on progress related to establishing this business to business relationship. Chapleau District may also communicate independently with the 'Identified' Aboriginal communities during this engagement period to track progress. Based upon the applicant's report of engagement efforts and from information received from the 'Identified' Aboriginal communities, the Chapleau District Manager will determine whether to proceed with issuance of the "Applicant of Record" for these sites.

The 'Identified' Aboriginal Communities associated with this water power application are:

- Brunswick House First Nation
- Chapleau Cree First Nation
- Chapleau Ojibwe First Nation
- Mattagami First Nation

"Applicant of Record" is the completion of the site release process for a potential waterpower project. Applicant of Record grants the applicant the opportunity to pursue the required approvals and permits for waterpower projects. There is no right, title, interest or tenure associated with Applicant of Record status.

"Applicant of Record" has not been issued for this site. In order to make an informed decision regarding the site release application, the Chapleau District Manager requires a report from Xeneca by **July 27, 2011** summarizing any efforts the applicant has made to engage with your community about this project. As well, the Chapleau District Manager may seek feedback directly from your community on the business to business engagement between Xeneca and your community.

The Ministry of Natural Resources has agreed to support a concurrent site release and environmental assessment process for this application. We have advised the applicant to include your community in their consultation efforts during the environmental assessment for this project. Chapleau District would also like to know about any concerns you may have with the project, specifically whether you anticipate any impacts on your community or the ability to exercise your Aboriginal and/or treaty rights. The information received by Chapleau District from Aboriginal communities may be forwarded to the applicant for consideration during the Environmental Assessment process, and will be considered as Chapleau District seeks to meet its consultation obligations with Aboriginal communities.

If you have any questions or would like to meet to discuss your community's interest, please contact Susan Collins Lindquist, District Resource Liaison Specialist, at 705-864-3120, susan.lindquist@ontario.ca.

Sincerely,



Paul Bernier
District Manager
Chapleau District

\scl

cc: Xeneca – Patrick Gillette – President and CEO
Xeneca – Dean Assinewe – Aboriginal Relations Liaison
COFN – Manon and Josh Memegos - Lands and Resources
MNR - Susan Collins Lindquist – Resource Liaison Specialist
MNR - Tim Mutter – District Planner, Chapleau District

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Télééc.: 705-864-0681



May 17, 2011

Chief Walter Naveau
Mattagami First Nation
P.O. Box 99
Gogama, ON P0M 1W0

SUBJECT: Update regarding proposed Non-Competitive Site Release Application for Waterpower Development –
a) Ivanhoe River, The Chutes, in Oates Township, and
b) Ivanhoe River, Third Falls, in Belford Township

Dear Chief Naveau,

Further to our previous letter of June 22, 2010 on the subject application, this letter is to advise of Xeneca Power Development Inc's decision to continue to proceed with the site release process for the proposed water power development on the Ivanhoe River in Oates and Belford Townships.

The next step in the site release process is for the applicant to engage the Identified Aboriginal communities listed below, with the intent of establishing a business to business relationship in support of this project. It is our understanding that this dialogue is already underway with your community. The applicant (Xeneca) will be required to report to the Chapleau District Manager on progress related to establishing this business to business relationship. Chapleau District may also communicate independently with the 'Identified' Aboriginal communities during this engagement period to track progress. Based upon the applicant's report of engagement efforts and from information received from the 'Identified' Aboriginal communities, the Chapleau District Manager will determine whether to proceed with issuance of the "Applicant of Record" for these sites.

The 'Identified' Aboriginal Communities associated with this water power application are:

- Brunswick House First Nation
- Chapleau Cree First Nation
- Chapleau Ojibwe First Nation
- Mattagami First Nation

"Applicant of Record" is the completion of the site release process for a potential waterpower project. Applicant of Record grants the applicant the opportunity to pursue the required approvals and permits for waterpower projects. There is no right, title, interest or tenure associated with Applicant of Record status.

"Applicant of Record" has not been issued for this site. In order to make an informed decision regarding the site release application, the Chapleau District Manager requires a report from Xeneca by **July 27, 2011** summarizing any efforts the applicant has made to engage with your community about this project. As well, the Chapleau District Manager may seek feedback directly from your community on the business to business engagement between Xeneca and your community.

The Ministry of Natural Resources has agreed to support a concurrent site release and environmental assessment process for this application. We have advised the applicant to include your community in their consultation efforts during the environmental assessment for this project. Chapleau District would also like to know about any concerns you may have with the project, specifically whether you anticipate any impacts on your community or the ability to exercise your Aboriginal and/or treaty rights. The information received by Chapleau District from Aboriginal communities may be forwarded to the applicant for consideration during the Environmental Assessment process, and will be considered as Chapleau District seeks to meet its consultation obligations with Aboriginal communities.

If you have any questions or would like to meet to discuss your community's interest, please contact Susan Collins Lindquist, District Resource Liaison Specialist, at 705-864-3120, susan.lindquist@ontario.ca.

Sincerely,



Paul Bernier
District Manager
Chapleau District

\scl

cc: Xeneca – Patrick Gillette – President and CEO
Xeneca – Dean Assinewe – Aboriginal Relations Liaison
MFN – James Naveau - Lands and Resources
MNR - Susan Collins Lindquist – Resource Liaison Specialist
MNR - Tim Mutter – District Planner, Chapleau District

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Télééc.: 705-864-0681



May 17, 2011

Chief Keeter Corston
P.O. Box 400
828 Fox Lake Road
Fox Lake Reserve
Chapleau, ON P0M 1K0

SUBJECT: Update regarding proposed Non-Competitive Site Release Application for Waterpower Development –
a) Ivanhoe River, The Chutes, in Oates Township, and
b) Ivanhoe River, Third Falls, in Belford Township

Dear Chief Corston,

Further to our previous letter of June 22, 2010 on the subject application, this letter is to advise of Xeneca Power Development Inc's decision to continue to proceed with the site release process for the proposed water power development on the Ivanhoe River in Oates and Belford Townships.

The next step in the site release process is for the applicant to engage the Identified Aboriginal communities listed below, with the intent of establishing a business to business relationship in support of this project. It is our understanding that this dialogue is already underway with your community. The applicant (Xeneca) will be required to report to the Chapleau District Manager on progress related to establishing this business to business relationship. Chapleau District may also communicate independently with the 'Identified' Aboriginal communities during this engagement period to track progress. Based upon the applicant's report of engagement efforts and from information received from the 'Identified' Aboriginal communities, the Chapleau District Manager will determine whether to proceed with issuance of the "Applicant of Record" for these sites.

The 'Identified' Aboriginal Communities associated with this water power application are:

- Brunswick House First Nation
- Chapleau Cree First Nation
- Chapleau Ojibwe First Nation
- Mattagami First Nation

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"Applicant of Record" has not been issued for this site. In order to make an informed decision regarding the site release application, the Chapleau District Manager requires a report from Xeneca by **July 27, 2011** summarizing any efforts the applicant has made to engage with your community about this project. As well, the Chapleau District Manager may seek feedback directly from your community on the business to business engagement between Xeneca and your community.

The Ministry of Natural Resources has agreed to support a concurrent site release and environmental assessment process for this application. We have advised the applicant to include your community in their consultation efforts during the environmental assessment for this project. Chapleau District would also like to know about any concerns you may have with the project, specifically whether you anticipate any impacts on your community or the ability to exercise your Aboriginal and/or treaty rights. The information received by Chapleau District from Aboriginal communities may be forwarded to the applicant for consideration during the Environmental Assessment process, and will be considered as Chapleau District seeks to meet its consultation obligations with Aboriginal communities.

If you have any questions or would like to meet to discuss your community's interest, please contact Susan Collins Lindquist, District Resource Liaison Specialist, at 705-864-3120, susan.lindquist@ontario.ca.

Sincerely,



Paul Bernier
District Manager
Chapleau District

\scl

- cc: Xeneca – Patrick Gillette – President and CEO
Xeneca – Dean Assinewe – Aboriginal Relations Liaison
CCFN - Brad Corston – Deputy Chief
MNR - Susan Collins Lindquist – Resource Liaison Specialist
MNR - Tim Mutter – District Planner, Chapleau District

May 17, 2011

Chief Rene Ojeebah
P.O. Box 1178
Hwy 101 East
Chapleau, ON P0M 1K0

SUBJECT: Update regarding proposed Non-Competitive Site Release Application for Waterpower Development –
a) Ivanhoe River, The Chutes, in Oates Township, and
b) Ivanhoe River, Third Falls, in Belford Township

Dear Chief Ojeebah,

Further to our previous letter of June 22, 2010 on the subject application, this letter is to advise of Xeneca Power Development Inc's decision to continue to proceed with the site release process for the proposed water power development on the Ivanhoe River in Oates and Belford Townships.

The next step in the site release process is for the applicant to engage the Identified Aboriginal communities listed below, with the intent of establishing a business to business relationship in support of this project. It is our understanding that this dialogue is already underway with your community. The applicant (Xeneca) will be required to report to the Chapleau District Manager on progress related to establishing this business to business relationship. Chapleau District may also communicate independently with the 'Identified' Aboriginal communities during this engagement period to track progress. Based upon the applicant's report of engagement efforts and from information received from the 'Identified' Aboriginal communities, the Chapleau District Manager will determine whether to proceed with issuance of the "Applicant of Record" for these sites.

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The Ministry of Natural Resources has agreed to support a concurrent site release and environmental assessment process for this application. We have advised the applicant to include your community in their consultation efforts during the environmental assessment for this project. Chapleau District would also like to know about any concerns you may have with the project, specifically whether you anticipate any impacts on your community or the ability to exercise your Aboriginal and/or treaty rights. The information received by Chapleau District from Aboriginal communities may be forwarded to the applicant for consideration during the Environmental Assessment process, and will be considered as Chapleau District seeks to meet its consultation obligations with Aboriginal communities.

If you have any questions or would like to meet to discuss your community's interest, please contact Susan Collins Lindquist, District Resource Liaison Specialist, at 705-864-3120, susan.lindquist@ontario.ca.

Sincerely,



Paul Bernier
District Manager
Chapleau District

\scl

cc: Xeneca – Patrick Gillette – President and CEO
Xeneca – Dean Assinewe – Aboriginal Relations Liaison
BHFN – Kevin Tangie – EDO and Lands and Resources
MNR - Susan Collins Lindquist – Resource Liaison Specialist
MNR - Tim Mutter – District Planner, Chapleau District

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May 17, 2011

Chief Murray Ray
Flying Post First Nation
33 First Street
P.O. Box 1027
Nipigon, ON, P0T 2J0

**SUBJECT: Update regarding proposed Non-Competitive Site Release Application for Waterpower Development –
a) Ivanhoe River, The Chutes, in Oates Township, and
b) Ivanhoe River, Third Falls, in Belford Township**

Dear Chief Ray:

Further to our previous letter of June 22, 2010 on the subject application, this letter is to advise of Xeneca's decision to continue to proceed further with the site release process for the proposed water power development on the Ivanhoe River in Oates and Belford Township.

The "Local" Aboriginal Communities associated with this water power application are:

- Flying Post First Nation
- Taykwa Tagamou
- Metis Nation of Ontario – Timmins Council

"Applicant of Record" is the completion of the site release process for a potential waterpower project. Applicant of Record grants the applicant the opportunity to pursue required approvals and permits for waterpower projects. There is no right, title, interest or tenure associated with Applicant of Record status. Applicant of Record has not been issued for this site.

The Ministry of Natural Resources has agreed to support a concurrent site release and Environmental Assessment process for this application. We have advised the applicant to include your community in their consultation efforts during the Environmental Assessment for this project. Chapleau District would also like to know about any concerns you may have with the project, specifically whether you anticipate any impacts on your community or the ability to exercise your Aboriginal and/or treaty rights. The information received by Chapleau District from Aboriginal communities may be forwarded to the applicant for consideration during the Environmental Assessment process, and will be considered as the Chapleau District seeks to meet its consultation obligations with Aboriginal communities.

If you have any questions, or would like to meet to discuss your community's interest, please contact Tim Mutter, Project Lead at 705-864-3139, tim.mutter@ontario.ca or Susan Collins Lindquist, District Resource Liaison Specialist, at 705-864-3120, susan.lindquist@ontario.ca.

I look forward to your response.

Sincerely,



Paul Bernier
District Manager
Chapleau District

\scl

cc: Xeneca – Patrick Gillette, President and CEO
FPFN - Ryan Ray, Lands and Resource Coordinator
MNR - Susan Collins Lindquist, Resource Liaison Specialist
MNR - Tim Mutter, District Planner

Ministry of Natural Resources

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May 17, 2011

President Natalie Durochers
Metis Nation of Ontario – Timmins Council
347 Spruce Street South
Timmins, ON
P4N 2N2

SUBJECT: Update regarding proposed Non-Competitive Site Release Application for Waterpower Development –
a) Ivanhoe River, The Chutes, in Oates Township, and
b) Ivanhoe River, Third Falls, in Belford Township

Dear Natalie Durochers:

Further to our previous letter of June 22, 2010 on the subject application, this letter is to advise of Xeneca's decision to continue to proceed further with the site release process for the proposed water power developments on the Ivanhoe River in Oates and Belford Township.

The "Local" Aboriginal Communities associated with this water power application are:

- Flying Post First Nation
- Taykwa Tagamou First Nation
- Metis Nation of Ontario – Timmins Council

"Applicant of Record" is the completion of the site release process for a potential waterpower project. Applicant of Record grants the applicant the opportunity to pursue required approvals and permits for waterpower projects. There is no right, title, interest or tenure associated with Applicant of Record status. Applicant of Record has not been issued for this site.

The Ministry of Natural Resources has agreed to support a concurrent site release and Waterpower Class Environmental Assessment process for this application. We have advised the applicant to include your community in their consultation efforts during the Environmental Assessment for this project. Chapleau District would also like to know about any concerns you may have with the project, specifically whether you anticipate any impacts on your community or the ability to exercise your Aboriginal and/or treaty rights. The information received by Chapleau District from Aboriginal communities may be forwarded to the applicant for consideration during the Environmental Assessment process, and will be considered as the Chapleau District seeks to meet its consultation obligations with Aboriginal communities.

If you have any questions, or would like to meet to discuss your community's interests or concerns, please contact Susan Collins Lindquist, District Resource Liaison Specialist, at 705-864-3120, susan.lindquist@ontario.ca.

I look forward to your response.

Sincerely,



Paul Bernier
District Manager
Chapleau District

\scl

cc: **Xeneca – Patrick Gillette, President and CEO**
MNO-Timmins – Andy Lefebvre – Captain of the Hunt
MNR - Susan Collins Lindquist, Resource Liaison Specialist
MNR - Tim Mutter, District Planner

Ministry of Natural Resources

Regional Operations Division
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May 17, 2011

Chief Linda Job
Taykwa Tagamou First Nation
R.R. # 2, Box 3310
Cochrane ON
P0L 1C0

SUBJECT: Update regarding proposed Non-Competitive Site Release Application for Waterpower Development –
a) Ivanhoe River, The Chutes, in Oates Township, and
b) Ivanhoe River, Third Falls, in Belford Township

Dear Chief Job:

Further to our previous letter of June 22, 2010 on the subject application, this letter is to advise of Xeneca's decision to continue to proceed further with the site release process for the proposed water power developments on the Ivanhoe River in Oates and Belford Township.

The "Local" Aboriginal Communities associated with this water power application are:

- Flying Post First Nation
- Taykwa Tagamou First Nation
- Metis Nation of Ontario – Timmins Council

"Applicant of Record" is the completion of the site release process for a potential waterpower project. Applicant of Record grants the applicant the opportunity to pursue required approvals and permits for waterpower projects. There is no right, title, interest or tenure associated with Applicant of Record status. Applicant of Record has not been issued for this site.

The Ministry of Natural Resources has agreed to support a concurrent site release and Waterpower Class Environmental Assessment process for this application. We have advised the applicant to include your community in their consultation efforts during the Environmental Assessment for this project. Chapleau District would also like to know about any concerns you may have with the project, specifically whether you anticipate any impacts on your community or the ability to exercise your Aboriginal and/or treaty rights. The information received by Chapleau District from Aboriginal communities may be forwarded to the applicant for consideration during the Environmental Assessment process, and will be considered as the Chapleau District seeks to meet its consultation obligations with Aboriginal communities.

If you have any questions, or would like to meet to discuss your community's interests or concerns, please contact Susan Collins Lindquist, District Resource Liaison Specialist, at 705-864-3120, susan.lindquist@ontario.ca.

I look forward to your response.

Sincerely,



Paul Bernier
District Manager
Chapleau District

\scl

cc: Xeneca – Patrick Gillette, President and CEO
TTN – Peter Archibald, Lands and Resource Portfolio
MNR - Susan Collins Lindquist, Resource Liaison Specialist
MNR - Tim Mutter, District Planner



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Aquatic, Terrestrial and Wetland Biologists

FINAL MINUTES

June 15th, 2011 Biological Scoping and Operating Plans Meeting and Conference Call

The Chute and Third Falls, Ivanhoe River

Participants

Sandra Dosser, MNR
Greg Deyne, MNR
Larry Ferguson, MNR
Rich Pyrcce, MNR
Bill Guthrie, MNR
Chris Chenier, Cochrane MNR
Tim Mutter, Chapleau MNR
Kris Vascotto, Chapleau MNR
Paula Allen, MOE District Supervisor
Amy Liu, CEAA
Mike Maleck, MNR

Dan McDonell, CEAA
Grace Yu, Xeneca
Uwe Roeper, Xeneca
Ed Laratta, Xeneca
Nava Pokharel, Xeneca
Tami Sugarman, OEL Hydrosys
Pilar Dipetro, OEL Hydrosys
Kai Markvorsen, OEL Hydrosys
Brett Woodman, NRSI
Dave Green, NRSI
Rachele Young, NRSI

Regrets

Laurie Brownlee, MOE
Dave Bell, CEAA
Al Rowlinson, DFO
Mohammad Khan, MOE
Ed Snucins, MOE
Carol Seacord, MNR
Helen Kwan, MOE
Sheryl Lusk, EC

STUDY AREAS

1. The Chute & Third Falls 12:55 – 3:30

Person	Details
A)	BACKGROUND INFO
Uwe	<p>The Chute (upstream site on the Ivanhoe River) is located downstream of Foleyet. The flow in the Ivanhoe River is controlled by the Ivanhoe Lake Dam structure. Thus, at the Chute, flow is controlled and has a normal looking hydrograph showing seasonal variation due to lake level control. There is no request to change the flow management or water levels of Ivanhoe Lake.</p> <p>The proposed project with a small head pond of 275 cubic meters. The upstream end extends approximately 6.5km to a set of rapids.</p> <p>The biggest issue on variable flow downstream of The Chute is the maintenance of flow through the Third Falls site which is immediately upstream of the Conservation Reserve.</p> <ul style="list-style-type: none"> - There is spawning immediately downstream at the site 100 meters. - Need to make sure the maintenance of spawning is provided for post development. - 37 km downstream there is the start with one set of rapids then next set which is



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	<p>Thirds Falls then stretch of river containing two additional fast water features prior to the confluence with the Groundhog River.</p> <ul style="list-style-type: none"> - There are three sets of falls (short rapids in a row) associated with Third Falls. - The upstream storage is small and 37 km downstream is slow moving and flat. - The Variable flow operation at The Chute is daily short term which won't have an impact on rapids 37 km downstream. If the Third Falls project is not built the stretch of flat river will be of concern - The main focus areas are as follows: <ol style="list-style-type: none"> 1. focus on spawning habitat on the Chute site since it is the only fast water spawning area for 37 km of river. 2. focus on providing water flow during spring and Walleye spawning periods 3. Proposed flows are revised and will not to operate more than 24 hours. The same amount of water would normally pass then but need enough buffer and storage to make this adequate 4. There appears to be enough storage downstream that limited intermittent operation would not affect Third Falls 5. monitor water levels proportional downstream to what is thought will happen and is supported by data 6. In the Clay Belt Region, need to map out few locations most likely to be effected by erosion, stake, reference, map and pictures 7. slope stability is not an issue because of erosion and deposition in the Clay Belt Region <ol style="list-style-type: none"> a. variable flow is low and Xeneca is prepared to do monitoring
	<p>Need to Follow-up to MNR based on the Chute letter/comments/commitments. Provided brief overview of the Ops Plan for the Chute, the contents of the letter and extent of the upstream and downstream inundation. Need to assess the impacts of the flow management at the Chute on impacts to habitat downstream. MNR comments?</p>
MNR	<p>Suggested that a few representative grain size samples could be taken and analyzed to determine susceptibility for erosion. Will Xeneca be submitting a formal statement on what options/inundation areas for the Chute and Third Falls are being considered?</p>
Uwe	<p>Noted there are a few issues. The EA doc will be the definitive document with updated information. Explained the issues around how the inundation area changed (iterative design changes, static vs. dynamic modeling, etc). Explained that the difference is relatively minor for impact assessment</p>
MNR	<p>Requested clarification from Nava on how to read the longitudinal profile and inundation area data. Expect no impact from the Chute downstream of the facility (37km downstream) due to attenuation of effect.</p> <ol style="list-style-type: none"> a. 7.5 km upstream of the Chute there is a tributary (Shawmere confluence) with coldwater input and a healthy self-sustaining Brook Trout population—need to determine if it's ever possible to impact that. Noted that it's VERY clear what the inundation area. Also need to reconcile that with the public consultation that has occurred so far (which shows 2.8km).
Tim	<p>The zone of influence is the moving target</p> <ol style="list-style-type: none"> 1. Third falls has two options and Xeneca needs to determine which one <ul style="list-style-type: none"> ▪ info was updated during the process ▪ The first set is static inundation and one set of limitations ▪ The dynamic inundation differences are between numbers and the



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	<p>issue between earlier vs. later data needs to be confirmed</p> <ul style="list-style-type: none"> ▪ The Latest stuff is in the EA document <p>2. What is flow?</p> <ul style="list-style-type: none"> ▪ Dynamic inundation has no fixed number ▪ Static inundation use this much km <p>3. property assessment for max zone of influence would be an IDF number</p> <ul style="list-style-type: none"> ▪ The Max flood extent to be considered for the project ▪ IDF is 1 in 100 but could still change ▪ The numbers are close to the final for inundation extent ▪ A 1 in 3 year assessment flood, pre and post project most useful not 1 in 100. What is impact of this?
Kris V	<p>What are the proposed conditions? By looking at existing water elevation and existing conditions variation doesn't meet what is being said so is there still faith there will be a backwater effect?</p> <p>The IDF should be 10 or higher and at what point does this constitute change to the project?</p> <p>The Site 3 years ago was static inundation. The Environmental perspective is few inches in 6 km, thus is it effective? Also, does the zone of influence have an impact on the road bridge upstream?</p> <p>In a 1 in 100 year flood, fluctuation will happen at low flow The Head pond is sitting at 285. The Head pond is flat before a dynamic curve. It creates a triangle space. What is the impact to this area from the project?</p> <p>Static inundation has fluctuation of water, and dynamic has little fluctuation Noted need to determine how often the machine needs to be run and what is <u>zone of influence (ZOI)?</u> (this is the main question to determine how much to run the facility and its impact of it on the inundation area)</p>
B)	ACTIONS AND PROPOSALS
Kris V	<p>The Seasonal flows provided are 2.3-2.6 and have not been observed in the last 10 years of observation. Thus, pretty low flow is proposed for the downstream</p> <p>Need to process as frequently as possible during the day for a natural river</p> <p>The concern is at Third Falls downstream of The Chute and there needs to be consideration for the expected impact near Third Falls at peak flow</p> <p>The Chutes has a zone of influence upstream and downstream and should be shown in environmental report. For the process, need to rely on EA document?</p>
Uwe	Drafts are not useful
Kris V	<p>Need to understand how things will be impacted, also because of fluctuation. What is the operational level of the head pond including the 1m fluctuation? What impacts will it have along the full extent of the inundation area? There is a strong concern about flows in intermittent operation period. Doesn't necessarily agree with the statement that attenuation over 37km will show no effect.</p>
Dave	The long term average flow in 2011 encompasses 7 km coverage upstream in terms of flow



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Green	(looking at data NRSI). There is Separation at 6.5 km of half meter. Still working on 100m downstream areas of influence though we may try and extend 3km further to pick up 2 tributaries (tribs). Also assessing tribs upstream for approx 250m.
Kris V	Have you assessed how far back the backwater effect will extend into the tribs? What is the new area of the headpond based on the 6.5 inundation area?
Nava	No to both answers
Uwe	During flood flows fluctuation influences habitat. There are usually 1m water fluctuations but what would be impact of larger scale fluctuations?
Kris V	How often will modified peaking happen because there is an influence on habitat? What are the Operating plans? Is the Zone realistic because it will extend all the way to the rapids and a bit faster since raise in levels Also, need the specific information on operations otherwise have to require conservative Q ₂₀ and Q ₂₀ numbers. General statements are not sufficient.
Rich	Is it possible to extend ZOI downstream a bit through HEC-RAS modeling to be able to look at those impacts?
Uwe	Operational effects will be limited upstream and flow changes will never exceed the rate at which the turbine flows or the maximum extent of the dynamic inundation area. Do not anticipate many impacts, consultants are looking at extent of potential impacts in potentially impacted areas
Kris V	Noted that sampling is required to assess those potential impacts along the extent of the river to determine those potential impacts Upstream of inundation there is 1 m fluctuation beyond the head pond. The Upstream tail end fluctuation will happen with no long term excess (60 percent of time). The edge of head pond with wetland there is 1 m fluctuation but is unproductive. Upstream static inundation, flow velocities changes will be less than at the plant. If there is sampling down all the way to zone of influence, the head pond, lots of habitat will be lost
Dave Green	NRSI has not looked at the seasonal (spring spawning values) of the fast water areas in the 2011 ZOI. This can either be looked at in the spring of 2012 or we could assume spawning values and look at substrate and morphology to determine those impacts.
Kris V	The Issues proposed offering plan needs to be better addressed From June 2 – Sept 1: 2.6m/sec are the numbers accurately presented? It needs to be broken down monthly not seasonally Need to know what the Ops plan actually is? The tentative information is difficult to make a decision based on...seasonal information is only partially useful, but we need more information – would like monthly breakdown. Q _{EA} is set at a Q _{99,999} – not reasonable. Need more specific information on operation NUMBERS: A downstream of Q80 is great. Pulse flows occur downstream and agree there is lots of storage on 37 km but big impact beyond 37km from peaking activity until evidence is presented there isn't an impact. Q80 is more comfortable to maintain in stream flow. To reach good ecological Integrity, Q80 from Third Falls into Conservation Reserve is base flow. Need to demonstrate impacts. To demonstrate impact of thermal effects, need below Q80 at the Chute and meet Q80 at Third Falls
Uwe	Needs to demonstrate meeting Q80. The stretch below the Chutes is like bath tub. Thus committing to putting right amount in but over flow does vary. The second constraint is to



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	<p>never drop below Q80</p> <p>Noted to Mimic natural flow is what needs to be demonstrated but flow has to maintain in stream values and maintain habitat to create adequate flow</p> <p>Q80 means no intermittent operations</p>
Greg D	Q80 forgoes intermittent operations as constraint but need legislative mandate to ensure ecological integrity in protected areas. If move below Q80 then think that affecting ecological integrity which it was established for. This creates a challenge!!
Uwe	<p>Q80 provides a value comfortable with but below Q80 still meeting habitat objective</p> <p>Noted that feels that a Q80 number is more based on not wanting to do more work to assess site specific potential of impacts. Q80 is a fallback number which may not reflect site specific conditions</p>
Kris V	If you can demonstrate a constant Q80 at Third Falls and going into the Conservation Reserve MNR would be comfortable that there will be no biological impact which meets their mandate. Need to have a model which demonstrates that to meet their level of comfort.
Uwe	Need to think about how to demonstrate how to rationalize how to maintain Q80 at a site when 20% of the time the river doesn't provide Q80
Kris V	Need is natural flow. Thus, how often will the plant operate during intermittent operations?
Uwe	<p>The EA report shows frequency of wet and dry? Does it have an impact</p> <p>What water comes in at 24 hours is what's released after 24 hours. Storage dictates how much to operate and to produce as much power as possible inflow dictates as well</p> <p>Q80 base flow uses all of August but only is used for a few hours. The general guideline conservative measure shows different for 30 days vs. few hours (after that release water again)</p> <p>Need 24 hour basis to maintain Q80 and Q80 has to be flowing in. The Q 99 base needs to be out which will determine how much need at the Chute. When and if Q80 comes in Uwe agrees to this, then Kris is happy</p>
Dave Green	What is the best way to sample benthic invertebrates? Plan is currently kick and sweep as well as drift netting. Is there a better approach in mind with MNR? Rock bags were discussed and contact will be made with DFO regarding their success with the use of rock bags.

Uwe	<p>Need to discuss that best water project development that involves last set of falls at Third Falls site (within the Conservation Reserve)</p> <p>Informed by MNR that a dam proposed for within the Conservation Reserve was not going to happen due to what was involved in trying to get the process changed and was more work than reasonable. Therefore, the project has been modified to see the dam constructed on the second set of falls immediately upstream of the Conservation Reserve</p> <p>This increased the upstream headpond and additional amount of inundation has been increased to try and make for head loss from the bottom end of Third Falls. This extends then back to The Chute. Additional water level depth goes over same 37km stretch of flat river and channel that it did before. For habitat assessment, the average water depth is</p>
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	<p>several meters (3m) and about 4.5 m deep channel</p> <p>The riffle 37km downstream of the Chute and 4km upstream of Third falls is drowned out. The impact of holding off on project is not huge. This will have additional topographic survey work completed</p>
Uwe	<p>Elevation levels are known from Third Falls to The Chute, but banks, height of banks, or within channel are not known. With 1.5 extra meters close to the channels, but won't know. If over the banks then inundate laterally</p> <p>Pike are of concern habitat because little fluctuations at spawning</p> <p>The project has been pushed back in the project development schedule. Unsure if the increase will overtop banks or affect wetlands significantly.</p>
Kris V	Flow expectation is Q80 at Third Falls
Uwe	<p>Creating storage sounds like good thing but the big flat area with changing water level over 1m everyday creates issues</p> <p>The Key objective is that we want head and intermittent operations. Q80 will make it difficult to achieve intermittent operations which may result in an uneconomical ROR project. Don't always want to accept Q80 at Conservation Reserve boundary but if we make no intermittent operations, then can't use any of water from turbine</p>
Kris V	Need to determine what values need to be met for ecological integrity. Need to draw a line at a number suitable. Also need Ontario Parks at the table to determine requirements for ongoing testing and spawning. This will maintain ecological integrity and diversity of the Conservation Reserve.
Uwe	One (west channel) of the two channels at the Chute appears to be more productive than the other
Dave Green	The Notable change in upstream limit was 5.6 km in 2010 to 42 km in 2011 and downstream was 400m 2010 and 3m in 2011
Kris V	We need inundation zone as soon as possible. Improving spawning habitat, the build can be wide and flat or narrow and deep. However, shallow and wide is the best
Uwe	<p>The options give maintenance of flow</p> <ol style="list-style-type: none"> 1. Velocity needs to be correct to maintain habitat and keep eggs maintained 2. Spill flow won't last the whole spring period so have to make sure it's the right velocity 3. Most flow now is on the left, near the end the right side is more flow. But could put powerhouse on right, however it causes consequences 4. NRSI needs to discuss more with Xeneca on last minute details of building

Final Notes

Person	Details
Dave Green	Outlines the inundation area and scope of fields
MNR	When are we expecting the EA report for Third Falls?
Uwe	2-3 months after the Chute
MNR	Can we maintain fish habitat downstream of the Chute?
Uwe	Have to consider the large minimum flows and seasonal commitments
MNR	What is the velocity for Walleye spawning?



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Dave Green	1-1.5cms, but would have to be a tradeoff and carefully considered between total area, seasonal flow concerns, and diversion of flows through the powerhouse vs. through the spillway.
MNR	If the Third Falls is constructed and the Q80 at the Third Falls is irrelevant since it's a head pond now. How to reconcile?
Uwe	Minimum flows at the CA (min Q80 if available) would dictate what the flows having to be released at the Chute (between turbine and Q_{EA} , and passed by Third Falls if built, with a certain amount of acceptable variance from what incoming flows at the Chute are.
MNR	Are you looking for a change in Operations in the Ivanhoe Lake Dam?
Uwe	No not yet. It's not in the ops plan and not looking for it.

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Uwe Roeper
Chief Executive Officer
Xeneca Power Development Inc.
5160 Yonge St.
Toronto Ont. M2N 6L9

July 22, 2011

Dear Uwe,

Thank-you for your letter dated July 4, 2011 with respect to the meeting held in Timmins, Ontario on June 15th 2011 to discuss Xeneca Power Inc.'s proposed waterpower projects on the Ivanhoe River at the Chute and Third Falls.

Although your letter does present two primary concerns and associated agreements that were reached at this meeting, many additional topics were also discussed. For a review of additional discussion topics, we recommend that you review the attached minutes that we have revised from those submitted on July 13th 2011 from Natural Resources Solutions Inc. A short synopsis of outstanding concerns expressed at the June 15th meeting includes:

- OMNR concerns that inadequate information has been collected regarding habitat, and the aquatic environment of the increased dynamic inundation zone (now 6.4 km as opposed to 2.8 km) to fully determine what the consequences of the proposed project construction and operation may have on sensitive habitat, fish populations and benthic communities;
- Modeled demonstration that a sustained Q80 (or flow in at the Chutes equals sustained flow out over Third Falls) will address concerns regarding ecological integrity of the downstream Conservation Reserve. This does not negate the need to assess the impacts of variable flows upstream and downstream of the proposed Chutes facility. This modeling will be conducted with input from the OMNR. Without this modeling piece, extensive baseline and monitoring will be necessary within the Conservation Reserve prior to facility construction/operation. This piece will help to inform base flows required at the Chutes to maintain this level of flow at Third Falls;
- Base flows as presented by Xeneca have not been observed in the Ivanhoe River at the Chutes within the last ten years including one of the driest years on record.

OMNR is concerned that the impacts of these base flows on the integrity of the aquatic community and fishery in the Ivanhoe may be substantial and require demonstration from Xeneca as to what the expected impacts may be.

- In addition to base flows, the OMNR will require further details of the proposed dam operating plan on a monthly basis to fully assess the probable impacts. This includes an assessment of peak flows, ramping rates, frequency of peaking activity, and what the impacts of this operation may be relative to the natural flow regime.
- Erosion of the dynamic inundation zone and downstream areas remains of concern because of the fine substrate material typical of the riverbank along the Ivanhoe River. Desk top studies are not sufficient to characterize the sediment regime and predict/monitor potential erosion problems and/or changes to the morphology of the river channel.
- The planned Riverine Index Netting program for 2011 will require ages to be processed for all fish captured to provide an understanding of the current status of the fishery (maximum age, mortality rates, growth/maturation patterns). This will provide baseline information to be used as a 'target' post-construction.

Additional discussion points are highlighted in the attached revised meeting minutes.

If you have any questions or concerns, please do not hesitate me at (705) 864-3139.

Sincerely,

Original Signed.

Tim Mutter
District Planner
Chapleau District OMNR

Project Description Comments – 3rd Falls

By: Chapleau MNR

To: Xeneca Power Development Inc./ OEL Hydrosys

As requested, please consider this letter as comments from the Ontario Ministry of Natural Resources - Chapleau District (OMNR) to Xeneca Power Development Inc. (Xeneca) on behalf of the Project Description – Ivanhoe River: Third Falls Proposed Generating Station, submission dated February 8, 2011.

The OMNR is acting as a commenting agency during the Ontario Water Power Class Environmental Assessment, however, this process is also being used, in part, to fulfill requirements associated with location approval for the project, as granted under the Lakes and Rivers Improvement Act (1990). Under this legislation, the OMNR is obligated to ensure that purposes 2(d), 2(e) and 2(f) of the act are maintained. If this surety is not provided through the EA process, it must be achieved prior to the granting of location approval. For more precise details of the information expectations of Xeneca, the OMNR recommends that Xeneca review the attached Management Objectives, Fisheries Objectives and minutes from the EA scoping meeting held in Timmins on April 19th, 2011.

Generally, the Project Description for the Third Falls project was insufficient to conduct a thorough review and provide substantive, specific comments to Xeneca. Little detail was provided on the construction, operation, transmission routes or zone of influence of the facility. However, we do have some comments pertaining to the information that was submitted in the Project Description.

Any economic benefit analysis of the project should include any economic losses that may be incurred to local tourist operators that substantially contribute to the local economy. In addition, economic analysis should attempt to quantify the expenditures associated with local recreational use of the river and how this may be impacted. This will allow a full understanding of the local impact of the proposed development and will inform the development of the operational regime (flows and levels) such that the structure is operated in a manner that minimizes potential detrimental impacts to this valuable economic driver.

The list presented in the Project Description of authorizations required for construction is insufficient. As discussed during the EA scoping meeting of April 19th 2011, further details on the design of the facility and proposed construction methods will be required before MNR can provide a comprehensive list of required permits and approvals.

The Project Description describes two options – a preferred option with infrastructure and access located within the Northern Clay Belt Forest Complex Conservation Reserve (with inundation zone well mapped) and a second option with infrastructure and access located outside the boundaries of the conservation reserve (with no inundation mapping provided). The option proposed inside the Conservation Reserve does not meet the four exceptions presented in the Provincial Parks and Conservation Reserves Act (2006), as

such, is prohibited by the Act. Any option with infrastructure located in the Conservation Reserve should not be presented in future submissions and the OMNR will not be considering any request to amend the boundaries of the Conservation Reserve to enable commercial renewable energy development at this time. Furthermore, construction and operation of the proposed facility must have no detrimental impact on the ecological integrity of the downstream conservation reserve. This must be demonstrated through effective baseline assessment and data collection prior to construction and post-construction monitoring and mitigation.

Because the second option is currently the only viable option, the entire inundation area must be assessed. Pre-construction monitoring should evaluate the entirety of the inundation area including any tributaries that may be impacted by the proposed activities. This will determine what impacts can be expected, if these impacts are acceptable, and how any unacceptable impacts may be mitigated via compensation or operational planning.

With respect to proposed operations, Chapleau District has repeatedly communicated to Xeneca via letter and face-to-face meetings that flows downstream from the facility be maintained at a seasonal 80th percentile to protect the ecological integrity of the river, fishery and the special concern sturgeon population in the downstream Conservation Reserve. To date, Xeneca has provided dam operation plans that promise minimum flows beyond the 99.99th percentile downstream from the site. Some agreement must be reached between Xeneca and Chapleau District regarding flows to ensure legislated obligations under the Lakes and Rivers Improvement Act (1990) and Parks and Conservation Reserves Act (2006) are maintained prior to granting of location approval.

As per the provisions of the Lakes and Rivers Improvement Act, the proponent will not have authority to operate the proposed facility in such a manner that leads to flooding or erosion in the conservation reserve beyond which would occur under normal environmental conditions. The project description currently does not articulate how this provision will be considered and how Xeneca will demonstrate that flooding or erosion within the conservation reserve boundary will not occur. Additional information will be required on the physical environment of the site. The proposed site location is located in the claybelt area, and will thus be very prone to sediment transport and erosion. The impact of construction/operation of the facility on these sediments must be considered including an understanding of downstream erosion potential associated with peaking of flows and channelization (or loss thereof). As previously stated, construction/operation of this facility must have no impact on the biological and physical features of the downstream Conservation Reserve.

No information has been provided on the thermal regime of the river (despite there being known populations of sensitive coldwater species such as brook trout and ling) or the impact that construction/operation of the facility may have on the ability of the up- and downstream reaches to support sensitive coldwater species.

The description of Socioeconomic Features does not describe the full usage of the site. As mentioned above, tourism operators are known to place clients on the Ivanhoe River above the Third Falls site. This is not reflected in the Project Description and must be addressed prior to moving forward with the project.

The biological assessment and proposed field studies presented in the Project Description will be insufficient as described to provide for location approval. For further details, it is recommended that Xeneca review minutes from the EA scoping meeting and attached objectives for the Ivanhoe River. At minimum, additional information is required on the aquatic community (benthic community, critical habitat for endemic fish species, current stock status) and the terrestrial community (riparian communities impacted by inundation, significant wildlife habitat features, Provincially significant wetlands – see objectives for full list) alongside the development of reference sites to determine degree of impact that may occur. Xeneca is strongly encouraged to discuss their workplan for the 2011 field season with District staff to ensure areas of concern are highlighted and addressed in the time available.

Determination of the zone of influence of the proposed facility will require further discussion. Peer-reviewed research has suggested that the zone of influence of peaking facilities extends quite a distance downstream from the structure dependant on the contribution of downstream tributaries to the overall flows of the river. The zone of influence must clearly be defined prior to the full assessment of the impact that construction/operation of the facility may have.

Thank you for providing an opportunity for the OMNR to comment on your proposed project at Third Falls. Should you have any questions, please contact Tim Mutter or Bill Guthrie at the Chapleau District Office at (705) 864-1710.

Fish Management Objectives for the proposed Chutes Hydroelectric Facility

The proposed development located at the Chutes site on the Ivanhoe River is located approximately 20 km downstream from the town of Foleyet and is located at the base of the locally known Chutes Falls.

Directly below the site is a walleye spawning area, and upstream areas are a combination of cobble/riffle habitat that is likely providing highly productive forage and/or valuable spawning habitat to aid in sustaining downstream fish populations.

At a site approximately 40 km downstream sits a second proposed site for development known as the Third Falls that directly abuts a conservation reserve. Within this reserve are known spawning locations for lake sturgeon – a population designated as Special Concern in accordance with the Endangered Species Act (2007). Anecdotal reports of sturgeon at the base of the Chutes site have been reported, however no confirmation (specimen or photographic) is available.

The proposed inundation area will flood the riffle/cobble habitat, and operations as described by the preliminary dam-operating plan include peaking activity as well as very limited flows during critical time periods relative to the natural regime. The distance downstream from the facility which will be impacted by variable flows remain to be determined and any consideration of impacts from construction/operation will require an understanding of this important piece.

As per Section 2.5 of the Fish Habitat Referral Protocol for Ontario, please find MNR's fisheries management objectives for the areas potentially affected by the construction of the proposed Chutes Hydroelectric Facility below.

Objectives:

- Maintain productivity of the site for fish species currently targeted by recreational anglers and anglers accessing the area through outfitters vital to the local economy. This includes walleye, northern pike and brook trout.
- Maintain productivity downstream of the site for fish species currently targeted by recreational anglers and anglers accessing the area through outfitters vital to the local economy. This includes including understanding the impact of planned variable flows on the contribution of the Ivanhoe River to the Groundhog River and sensitive life stages of fish including spawning, incubation and migration.
- Maintain/enhance the downstream special concern sturgeon population within both the Ivanhoe and Groundhog rivers, including understanding the impact of planned variable flows on sensitive life stages including spawning, incubation and migration.

Fish passage concerns

As per section 2.5.2 of the Fish Habitat Referral Protocol for Ontario, please find MNR's concerns regarding fish passage below.

- Given the substantial drop located at the Chutes site, it is likely that the fall is acting as an upstream barrier to fish migration. Downstream movement of larvae and adult fish is likely. Dam operation should allow for continued downstream movement through the operation of the spillway.

Ivanhoe River Usage Survey - 2012

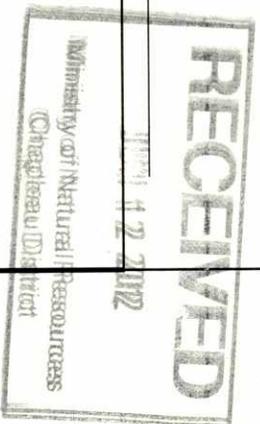
In order for the Ontario Ministry of Natural Resources and Xenecca to fully understand the impacts/benefits of the proposed hydroelectric developments on the Ivanhoe River and surrounding communities, we would respectfully ask you to complete this short survey to help us understand your reasons for visiting the Ivanhoe River.

Please deposit completed surveys in the comment box at the Chutes or Third Falls site.

I visit the Ivanhoe River (check all that apply):	My reason for visiting the Ivanhoe River includes (check all that apply):
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<input type="checkbox"/> Between 2 and 5 times per year	<input checked="" type="checkbox"/> To enjoy the falls
<input type="checkbox"/> Between 6 and 10 times per year	<input checked="" type="checkbox"/> Picnicking
<input checked="" type="checkbox"/> More than 10 times per year	<input type="checkbox"/> Camping
<input checked="" type="checkbox"/> My visit was conducted through a local outfitter	<input type="checkbox"/> Fishing
<input type="checkbox"/> Number in Party	<input type="checkbox"/> Hunting
	<input checked="" type="checkbox"/> Other

Additional Comments:

Nice Day No Bugs yet



If you would like to be kept updated on this initiative, please include your email address and a comment requesting you be contacted, and we will advise you of the results of our study.

Your comments can also be submitted via postal service by mailing this card to: Chapleau District MNR, 190 Cherry St., Chapleau, ON, P0M 1K0. If you would like to speak to someone about this survey, please call Dr. Kris Vascotto at (705) 864-3162.

Anglers! Please fill out the back of this form prior to placing in the comment box!

Date: May 10, 2012

Number Angling in Party: 0

Target Species: _____ Email Address (not required): _____

Location Angled	Catch Description			Harvest Characteristics	
	Number Captured	Number Released	Number Harvested	< 46 cm (18.1")	> 46 cm (18.1")

If tagged fish were captured, please write the number(s) on the tag in the space below and place tags in box:

Comments: _____

Notes: Location includes upstream of Chutes site, downstream of Chutes site and downstream of Third Falls - see posted map for additional information

Species: BT = brook trout, W = walleye, NP = Northern Pike, OTH = please identify any additional species captured



5255 Yonge St., Suite 1200, North York, ON M2N 6P4
tel416-590-9362 fax416-590-9955 www.xeneca.com

July 14, 2011

Dear Reviewer,

We are pleased to present you with the Environmental Report ("ER") for the proposed Ivanhoe River – The Chute Generating Station. It has been prepared as required under the Class Environmental Assessment for Waterpower Projects.

The ER will be available for a 60-calendar day review period. This is an extension from the usual 30-calendar day review period as required in the Class EA process. This extended review period is meant to allow increased opportunity for all stakeholders to identify issues. Thus, this ER is being made available for review and comment from **July 14, 2011** through to **September 12, 2011**.

Xeneca must receive all comments in writing regarding the proposed Project and/or the ER no later than September 12, 2011. It is preferred that comments be received during the earliest days of the review period to allow all involved parties a significant period for resolving any issues during the remainder of the review.

The Environmental Report may be viewed electronically at:

http://www.xeneca.com/classea_process/eas_currently_under_review/index.html

All comments and correspondence should be sent to:

Vanesa Enskaitis
Public Affairs Liaison
Xeneca Power Development Inc.
T: 416-590-3076
E: venskaitis@xeneca.com

As per the process outlined in the Class EA, interested parties must first attempt to resolve any outstanding issues with the proponent during the review period. In the event that issues cannot be resolved, the concerned party may make a written request to the Minister of the Environment at the address noted below for a Part II Order under the Environmental Assessment Act. A copy of the Part II Order request must also be sent to Xeneca at the address noted above.

Minister of the Environment
12th Floor, 135 St. Clair Avenue West
Toronto, ON M4V 1P5

Requests for Part II Orders must be made in accordance with the provisions set out in the Class Environmental Assessment and must be received by the Minister of the Environment and Xeneca no later than September 12, 2011.

Under the *Freedom of Information and Protection of Privacy Act* and the *Environmental Assessment Act*, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this matter and will be released, if requested, to any person.

Overall, this Class EA and the conceptual plans for the proposed project meet requirements of the Ontario and Federal environmental assessment process and the objectives of the *Green Energy and Green Economy Act, 2009*. It creates positive environmental and socio-economic benefits for the people of Ontario.

Xeneca looks forward to comments by reviewers of this Environmental Report prepared under this Class EA and if written comment is being submitted to other parties requests that it is copied to Xeneca.

Thank you to all participants in advance for your kind consideration of this Class EA.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Patrick W. Gillette". The signature is stylized and cursive.

Patrick Gillette
President
Xeneca Power Development Inc.

Date: JUNE 15/12
 Target Species: ROCKBASS

Number Angling in Party: 2
 Email Address (not required): _____

Location Angled	Species	Catch Description			Number Tagged Fish	Harvest Characteristics	
		Number Captured	Number Released	Number Harvested		< 46 cm (18.1")	> 46 cm (18.1")
CHUTES	ROCKBASS	9	9	—	—		
	PIKE	1		1	—		

If tagged fish were captured, please write the number(s) on the tag in the space below and place tags in box:

Comments:

ALL TO SMALL 579 in

Notes: Location includes upstream of Chutes site, downstream of Chutes site and downstream of Third Falls - see posted map for additional information

Species: BT = brook trout, W = walleye, NP = Northern Pike, OTH = please identify any additional species captured

Ivanhoe River Usage Survey - 2012

In order for the Ontario Ministry of Natural Resources and Xenea to fully understand the impacts/benefits of the proposed hydroelectric developments on the Ivanhoe River and surrounding communities, we would respectfully ask you to complete this short survey to help us understand your reasons for visiting the Ivanhoe River.

Please deposit completed surveys in the comment box at the Chutes or Third Falls site.

<p>I visit the Ivanhoe River (check all that apply):</p> <p><input type="checkbox"/> One time per year</p> <p><input type="checkbox"/> Between 2 and 5 times per year</p> <p><input type="checkbox"/> Between 6 and 10 times per year</p> <p><input checked="" type="checkbox"/> More than 10 times per year</p> <p><input type="checkbox"/> My visit was conducted through a local outfitter</p> <p style="text-align: center;"><i>2 to 5</i></p> <p>Number in Party <input type="checkbox"/> _____</p>	<p>My reason for visiting the Ivanhoe River includes (check all that apply):</p> <p><input checked="" type="checkbox"/> General nature appreciation</p> <p><input checked="" type="checkbox"/> To enjoy the falls</p> <p><input checked="" type="checkbox"/> Picnicking</p> <p><input type="checkbox"/> Camping</p> <p><input checked="" type="checkbox"/> Fishing</p> <p><input type="checkbox"/> Hunting</p> <p><input type="checkbox"/> Other _____</p>
<p>Additional Comments:</p> 	

If you would like to be kept updated on this initiative, please include your email address and a comment requesting you be contacted, and we will advise you of the results of our study.

Your comments can also be submitted via postal service by mailing this card to: Chapleau District MNR, 190 Cherry St., Chapleau, ON, P0M 1K0. If you would like to speak to someone about this survey, please call Dr. Kris Vascotto at (705) 864-3162.

Anglers! Please fill out the back of this form prior to placing in the comment box!

Date: June 1-8-9
 Target Species: _____

Number Angling in Party: 2
 Email Address (not required): _____

Location Angled	Species	Catch Description			Number Tagged Fish	Harvest Characteristics	
		Number Captured	Number Released	Number Harvested		< 46 cm (18.1")	> 46 cm (18.1")
CHUTES	PIKE SPINKEBEL	18	8	10	1	8	1

If tagged fish were captured, please write the number(s) on the tag in the space below and place tags in box:

WILE THRUVE 10

Comments:

Notes: Location includes upstream of Chutes site, downstream of Chutes site and downstream of Third Falls - see posted map for additional information

Species: BT = brook trout, W = walleye, NP = Northern Pike, OTH = please identify any additional species captured

Ivanhoe River Usage Survey - 2012

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Please deposit completed surveys in the comment box at the Chutes or Third Falls site.

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<input type="checkbox"/> Between 6 and 10 times per year	<input checked="" type="checkbox"/> Picnicking
<input checked="" type="checkbox"/> More than 10 times per year	<input type="checkbox"/> Camping
<input type="checkbox"/> My visit was conducted through a local outfitter	<input checked="" type="checkbox"/> Fishing
<input type="checkbox"/> Number in Party	<input checked="" type="checkbox"/> Hunting
<u>2</u>	<input type="checkbox"/> Other _____
Additional Comments:	

If you would like to be kept updated on this initiative, please include your email address and a comment requesting you be contacted, and we will advise you of the results of our study.

Your comments can also be submitted via postal service by mailing this card to: Chapleau District MNR, 190 Cherry St., Chapleau, ON, P0M 1K0. If you would like to speak to someone about this survey, please call Dr. Kris Vaschetto at (705) 864-3162.

Anglers! Please fill out the back of this form prior to placing in the comment box!

Date: MAY 12-13-14

Number Angling in Party: 2

Target Species: _____

Location Angled	Species	Catch Description			Number Tagged Fish	Harvest Characteristics	
		Number Captured	Number Released	Number Harvested		< 46 cm (18.1")	> 46 cm (18.1")
CHUTES	PIKE DICKREEL	19	7	12	1		

If tagged fish were captured, please write the number(s) on the tag in the space below and place tags in box:

Comments:

Notes: Location includes upstream of Chutes site, downstream of Chutes site and downstream of Third Falls - see posted map for additional information

Species: BT = brook trout, W = walleye, NP = Northern Pike, OTH = please identify any additional species captured

Ivanhoe River Usage Survey - 2012

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<input type="checkbox"/> Between 2 and 5 times per year	<input type="checkbox"/> To enjoy the falls
<input type="checkbox"/> Between 6 and 10 times per year	<input type="checkbox"/> Picnicking
<input type="checkbox"/> More than 10 times per year	<input checked="" type="checkbox"/> Camping
<input type="checkbox"/> My visit was conducted through a local outfitter	<input type="checkbox"/> Fishing
<input type="checkbox"/> Number in Party _____	<input type="checkbox"/> Hunting
	<input checked="" type="checkbox"/> Other <u>canoe trip</u>

Additional Comments:

Beaut. Fall Falls. Not with a dam for the amount of water flow

If you would like to be kept updated on this initiative, please include your email address and a comment requesting you be contacted, and we will advise you of the results of our study.

Your comments can also be submitted via postal service by mailing this card to: Chapleau District MNR, 190 Cherry St., Chapleau, ON, P0M 1K0. If you would like to speak to someone about this survey, please call Dr. Kris Vasotto at (705) 864-3162.

Anglers! Please fill out the back of this form prior to placing in the comment box!

Date: _____ Number Angling in Party: _____
 Target Species: _____ Email Address (not required): _____

Location Angled	Species	Catch Description			Harvest Characteristics		
		Number Captured	Number Released	Number Harvested	Number Tagged Fish	< 46 cm (18.1")	> 46 cm (18.1")

If tagged fish were captured, please write the number(s) on the tag in the space below and place tags in box:

Comments: _____

Notes: Location includes upstream of Chutes site, downstream of Chutes site and downstream of Third Falls - see posted map for additional information

Species: BT = brook trout, W = walleye, NP = Northern Pike, OTH = please identify any additional species captured

Ivanhoe River Usage Survey - 2012

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<input checked="" type="checkbox"/> Between 2 and 5 times per year	<input checked="" type="checkbox"/> To enjoy the falls
<input type="checkbox"/> Between 6 and 10 times per year	<input checked="" type="checkbox"/> Picnicking
<input type="checkbox"/> More than 10 times per year	<input type="checkbox"/> Camping
<input type="checkbox"/> My visit was conducted through a local outfitter	<input checked="" type="checkbox"/> Fishing
<input type="checkbox"/> Number in Party	<input type="checkbox"/> Hunting
	<input type="checkbox"/> Other _____

Additional Comments: *for the amount of water and hydro potential this river is small the falls beautiful - leave it alone*

If you would like to be kept updated on this initiative, please include your email address and a comment requesting you be contacted, and we will advise you of the results of our study.
Your comments can also be submitted via postal service by mailing this card to: Chapleau District MNR, 190 Cherry St., Chapleau, ON, P0M 1K0. If you would like to speak to someone about this survey, please call Dr. Kris Vascotto at (705) 864-3162.

Anglers! Please fill out the back of this form prior to placing in the comment box!

Date: July 28/12 Number Angling in Party: 6
 Target Species: walleye Email Address (not required): _____

Location Angled	Species	Catch Description			Harvest Characteristics		
		Number Captured	Number Released	Number Harvested	Number Tagged Fish	< 46 cm (18.1")	> 46 cm (18.1")
<u>Falls</u>	<u>bass</u>	<u>1</u>	<u>1</u>				
	<u>walleye</u>	<u>1</u>	<u>1</u>				

If tagged fish were captured, please write the number(s) on the tag in the space below and place tags in box:

Comments: down side of chutes

Notes: Location includes upstream of Chutes site, downstream of Chutes site and downstream of Third Falls - see posted map for additional information

Species: BT = brook trout, W = walleye, NP = Northern Pike, OTH = please identify any additional species captured

Ivanhoe River Usage Survey - 2012

In order for the Ontario Ministry of Natural Resources and Xeneca to fully understand the impacts/benefits of the proposed hydroelectric developments on the Ivanhoe River and surrounding communities, we would respectfully ask you to complete this short survey to help us understand your reasons for visiting the Ivanhoe River.

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<input type="checkbox"/> Between 2 and 5 times per year	<input type="checkbox"/> To enjoy the falls
<input type="checkbox"/> Between 6 and 10 times per year	<input checked="" type="checkbox"/> Picnicking
<input type="checkbox"/> More than 10 times per year	<input checked="" type="checkbox"/> Camping
<input type="checkbox"/> My visit was conducted through a local outfitter	<input type="checkbox"/> Fishing
<input type="checkbox"/> Number in Party _____	<input type="checkbox"/> Hunting
	<input type="checkbox"/> Other <u>CANOEING</u>

Additional Comments:
It is beautiful, Please don't dam it.

If you would like to be kept updated on this initiative, please include your email address and a comment requesting you be contacted, and we will advise you of the results of our study.

Your comments can also be submitted via postal service by mailing this card to: Chapleau District MNR, 190 Cherry St., Chapleau, ON, P0M 1K0. If you would like to speak to someone about this survey, please call Dr. Kris Vasco at (705) 864-3162.

Anglers! Please fill out the back of this form prior to placing in the comment box!

Date: _____ Number Angling in Party: _____
 Target Species: _____ Email Address (not required): _____

Location Angled	Catch Description			Harvest Characteristics	
	Species	Number Captured	Number Released	Number Tagged Fish	< 46 cm (18.1") > 46 cm (18.1")

If tagged fish were captured, please write the number(s) on the tag in the space below and place tags in box:

Comments: _____

Notes: Location includes upstream of Chutes site, downstream of Chutes site and downstream of Third Falls - see posted map for additional information

Species: BT = brook trout, W = walleye, NP = Northern Pike, OTH = please identify any additional species captured

Date: _____

Ministry of Tourism and Culture

Culture Services Unit
Programs and Services Branch
401 Bay Street, Suite 1700
Toronto ON M7A 0A7

Tel. 416 314-7265
Fax: 416 314-7175

Ministère du Tourisme et de la Culture

Unité des services culturels
Direction des programmes et des services
401, rue Bay, Bureau 1700
Toronto ON M7A 0A7
Tél. : 416 314-7265
Télééc. : 416 314 7175



September 12, 2011 **(by E-mail only)**

Vanesa Enskaitis
Public Affairs Liaison
Xeneca Power Development Inc.
5255 Yonge St., Suite 1200
North York, Ontario
M2N 6P4

Subject: Environmental Report, Class EA for Water Power Projects
Project: Ivanhoe River - The Chute, Hydroelectric Generating Station Project
Applicant: Xeneca Power Development Inc.
Location: Chapleau District

Dear Ms. Enskaitis,

Thank you for the opportunity to comment on the Environmental Report prepared as part of the environmental assessment process related to the above noted proposed project.

The Ministry of Tourism and Culture's (MTC) interest in this proposed project relates to our mandate of conserving, protecting and preserving Ontario's heritage including cultural heritage landscapes, built heritage resources and archaeological sites.

This office has reviewed the above-mentioned report, and has the following comments:

The information provided in the report related to identifying all known and potential cultural heritage resources and potential project impacts on those resources is inconsistent.

Section 2.10 Cultural Heritage focuses on summarizing the findings of the Stage 1 Archaeological Assessment that was prepared. Under subsection 2.10.2 it states that based on the results of the Stage 1 assessment the potential for the presence of built heritage structures within the project area is expected to be negligible and that this would be confirmed through the Stage 2. There is no summary within section 2.10 that addresses cultural heritage landscapes.

However, *Table 4: Identified Issues and Management Strategies* does address cultural heritage landscapes under the subsection related to potential issues affecting cultural heritage resources. It indicates that the Stage 1 archaeological assessment did not identify potential for cultural heritage landscapes within the project area and that the Stage 2 study will confirm this assessment. However, beneath this comment it also states that "The Chapleau Cree indicated a preference for the construction of a rock clay-fill dam instead of a concrete water control structure to minimize the effects on natural aesthetics of the area." Inclusion of this statement under "mitigation" implies that this area may be a potential cultural heritage landscape.

MTC would like to clarify that the purpose of a Stage 1 assessment is for the consultant archaeologist to determine whether there is potential for archaeological sites in the project area.

He or she reviews geographic, land use and historical information for the project area, visits the property to inspect its current condition and contacts this ministry to find out whether or not there are any known archaeological sites on or near the project area. A Stage 2 assessment is required when the consultant archaeologist identifies areas of archaeological potential.

Archaeological assessments do not address known or potential built heritage resources or cultural heritage landscapes therefore it is not sufficient to use only the findings of an archaeological assessment to support the conclusion that these types of cultural heritage resources are not present within the study area.

Furthermore, *Appendix B Potential Effects Matrix for Construction and Operation* indicates the potential level of effect on all cultural heritage resources (archaeological resources, built heritage resources and cultural heritage landscapes) is unknown and that appropriate mitigation measures will be proposed, as required, based on assessment findings.

Under Section 5 of the report *Evaluation of Potential Project Effects* it states “The purpose of an environmental assessment is to identify all the ecosystem components that make up the environment (biological, social and economic) within the project area, and evaluate how the project would affect these valued ecosystem components during its construction, operation and end of life cycles.” The current Environmental Report does not demonstrate that enough information has been gathered in order to identify all cultural heritage resources that may be located within the project area, and therefore evaluate potential project impacts, as is required by the Class EA process.

Section 9 Regulatory Approvals and Permits includes *Table 7: List of Potential Regulatory Approvals*. The Ministry of Tourism and Culture (MTC) is included an agency within this table. The Ministry licenses all archaeologists who carry out fieldwork in Ontario, and as a condition of their licence, archaeologists must document the results of the fieldwork they carry out in Ontario by filing archaeological reports with this ministry for review. MTC is not an approval authority. Ministry staff review each report prepared by licensed archaeologists, including archaeological assessment reports, to ensure that the licensed archaeologist has met the terms and conditions of his or her licence, including our requirements for fieldwork and reporting.

Additional comments:

Marine Archaeology

The archaeological fieldwork and reporting completed to date for this project addresses only land based impacts. Due to the nature of this project, as a best practice MTC recommends undertaking a marine archaeological assessment for those areas where there is a possibility of impacting potential marine archaeological sites.

The above are comments from the Ministry of Tourism and Culture on the report. We trust that this is of assistance; please let this office know if you have any questions.

Regards,

Paula Kulpa

Heritage Planner | Culture Services Unit
Ministry of Tourism and Culture

Cc: Chris Schiller, Manager, Culture Services Unit
Ministry of Tourism and Culture

Laurie Brownlee, Environmental Planner & EA Coordinator
Ministry of the Environment

Ministry of Natural Resources

Regional Operations Division
190 Cherry Street
Chapleau, ON P0M 1K0

Tel.: 705-864-1710
Fax: 705-864-0681

Ministère des Richesses naturelles

Unité des opérations régionales
190, rue Cherry
Chapleau, ON P0M 1K0

Tél : 705-864-1710
Télé.: 705-864-0681



Vanesa Enskaitis
Public Affairs Liaison
Xeneca Power Development Inc.
5255 Yonge St., Suite 1200
North York, Ontario
M2N 6P4

September 09, 2011

Dear Mrs. Enskaitis,

Thank you for providing the Chapleau District Ontario Ministry of Natural Resources (OMNR) the opportunity to review and provide comments on the Environmental Report (ER) that was issued on July 14, 2011 for the Ivanhoe River – The Chute Proposed Hydroelectric Generating Station Project.

Both district and regional OMNR staff have reviewed the Environmental Report and enclosed with this letter you will find an itemized list of comments that pertain to specific sections of the ER document. Once Xeneca Power Development Inc. (Xeneca) has had an opportunity to review the attached comment submission, OMNR staff welcome further dialogue to address outstanding concerns and develop a plan for moving forward in the EA process and the subsequent permitting and approvals process associated with The Chute project.

In accordance with the Ontario Waterpower Class EA, there are opportunities to integrate the regulatory and legislative requirements of various permits and approvals required from the Ontario Ministry of Natural Resources. The Class EA is the primary process to identify potential impacts of the project and propose adequate mitigation where appropriate, and to provide the public and Aboriginal communities detailed information of the project and associated net environmental impacts.

The OMNR has several key concerns associated with the ER, notably gaps in baseline information and associated incomplete evaluation of potential effects. In the absence of this information we cannot determine the appropriateness of the proposed mitigation strategies.

The key concerns are as follows:

Zone of Influence and Assessment of Potential Impacts

The zone of influence (ZOI) presented in the ER extends 6.4 km upstream from the proposed site (the new inundation area presented on June 15, 2011), and approximately 520 m downstream from the proposed site. The OMNR believes that the zone of influence may extend to the Groundhog River, given the expected run-of-river-with-modified-peaking regime that is proposed. (Other regulated Northern Ontario rivers of similar size and drainage area have ZOI's that are tens of kilometres downstream - e.g. the Magpie River below Steephill Falls, and the White River below White Lake Dam). The OMNR would like to see any further modelling, analysis, or results regarding the upstream inundation and the downstream variable flow reach.

OMNR suggests that the zone of influence will extend to a downstream limit where variable flows generated by peaking activity at the facility are no longer detectable. This limit has been described by some research as the point where contributory flows from other inputs are sufficient to dilute any variable flow signal.

Agreement from all relevant agencies on the ZOI was not established early in the EA process, and therefore the geographical extent for the assessment of potential impacts was not clarified. Insufficient evidence has been presented in the ER to confirm the extent of the upstream and downstream zone of influence. It is therefore difficult to rationalize the scope of your sampling efforts and assessment of potential environmental effects. As a result, the scope of potential effects and mitigation cannot be considered complete.

Part of the purpose of the Class Environmental Assessment process is the thorough evaluation of potential net environmental effects of the project in a systematic fashion. Given that the natural environment (both aquatic and terrestrial) of the upper 3.6 km of the dynamic inundation area has not been described within the ER, it is not possible to accurately determine what the potential effects on this environment may be, nor what mitigation and monitoring strategies may be appropriate.

The OMNR is concerned that information and analysis is missing from the assessment of environmental effects matrix (Table 4). In many cases, Xeneca has simply stated that the potential effect is "unknown due to outstanding data and information." The stated purpose of the Class EA is to "assess the potential for effects to the environment using best information available in order to make an informed decision about how or whether a project should proceed." With so much missing information, the assessment of potential environmental effects and associated mitigation is considered incomplete. With respect to issuing the required permits and approvals for this proposed project, it is difficult to determine if the project is consistent with the purposes of various pieces of legislation that OMNR is responsible for.

Preliminary Dam Operating Plan

As discussed in prior correspondence with Xeneca and also during various face-to-face meetings, the OMNR has requested a preliminary dam operating plan for the Chute Generating Station as part of the EA planning process. The plan must clearly identify the variability in flows for the proposed operations relative to the natural flows of the river to gain an understanding of how the facility may be operated under various flow parameters and how the proposed dam operation may result in environmental effects. A preliminary dam operating plan typically describes the magnitude, duration, frequency, timing and rate of change of flows and levels – including both generated and spilled flows.

Without this information, it is not possible to determine what environmental effects may be expected from the operation of the facility and to propose any effective mitigation or monitoring strategies. A preliminary dam operating plan deemed acceptable by the OMNR will be required prior to the granting of approvals under the Lakes and Rivers Improvement Act.

The Environmental Report states that there will be "...no impact on the downstream Conservation Reserve" associated with operation of the facility. At the meeting of June 15 2011, Xeneca had committed to providing Q_{80} flows at the crest of Third Falls to reasonably sustain the ecological integrity of the Northern Claybelt Conservation Reserve. It was further agreed that Xeneca would provide hydrological modelling, with the assistance of OMNR hydrologists, to determine what baseflows would be required at the Chute facility at various flows to sustain the Q_{80} at the crest of Third Falls. This information was not presented within the Environmental Report and will need to be part of the preliminary dam operating plan submission.

Aboriginal Consultation

As per section 7.1 of the Class EA guide, Aboriginal consultation for related regulatory processes should be coordinated and harmonized.

However, it is apparent from statements in the ER that Xeneca has not yet completed its procedural aspects on Aboriginal consultation.

- Page 24 has the statement: "To date, no consultation with individual Aboriginal community members to gather information specific to lands and waters use has been undertaken."
- Page 70: "...the Aboriginal community engagement plan will formally begin after the issuance of the Notice of Completion, at which time the report will be provided to the communities for review."

Based on the information contained in the ER, the Ministry of Natural Resources is unable to determine whether or not the Crown's duty to consult with Aboriginal communities has been fulfilled. Xeneca is encouraged to:

- Demonstrate that all mandatory aspects of Aboriginal consultation in the EA guide have been met;
- Revise and clarify the communities' contact logs, including copies of all associated Aboriginal consultation documentation pertaining to the Chutes proposal,
- Demonstrate that the identified communities have received the appropriate information on the project and its impacts,
- Show that the communities have an understanding of the project and its impacts,
- Document that the issues and concerns of the Aboriginal communities have been identified; particularly in regards to possible adverse impacts on Aboriginal and treaty rights;
- Demonstrate how these issues and concerns were considered by Xeneca in the project and,
- Provide the follow up communications to the communities which explain Xeneca's response to their concerns.

It is not clear in the ER how consultation with Metis Nation of Ontario – Timmins Community Council has been organized.

The ER does not contain documentation from the individual Wabun communities verifying that the tribal council can engage in consultation efforts on their behalf.

At this point in time, and until Xeneca provides an update to the Aboriginal communities' response to the ER review, the Ministry of Natural Resources is not in a position to evaluate whether or not the Crown's duty to consult has been met, nor what further actions by Xeneca would be necessary to enable the issuance of permits and approvals for this project to proceed.

Further consultation is at the discretion of the proponent at this stage of the process. However, prior to issuing permits and approvals, the Ministry of Natural Resources must be assured that the Aboriginal consultation process conducted by the proponent has been adequate for the Crown to meet its duty to consult and, if necessary, accommodate Aboriginal and treaty rights. If there are Crown concerns that Aboriginal consultation requirements have not been met, additional consultation may be required, which could result in project delays.

Monitoring

Post construction monitoring has not been included in the ER. A post construction monitoring plan should address uncertainties associated with the determination of net effects and the effectiveness of the dam operating plan and other strategies to mitigate predicted effects. In general a post construction monitoring plan should incorporate clearly stated monitoring objectives, identification of performance indicators and measurement endpoints, data collection methods and protocols, monitoring frequency and reporting requirements. The reporting requirements should use the following framework to guide the monitoring plan:

- What was the ecological condition (status) before construction?
- What is the potential degree of alteration in key ecosystem components posed by the planned development?
- What is the potential impact to the ecological condition?
- What measures are predicted to mitigate the impact and maintain or restore the ecological condition?
- What is the effectiveness of the mitigation strategies?
- What is the effect of resulting tradeoffs?

Conclusion

The Environmental Report as presented is insufficient to provide for the requirements associated with OMNR permitting and approvals process. MNR encourages Xeneca to consider re-issuing their Environmental Report (ER) to address the information requirements and comments from OMNR to better address the concerns and information gaps identified from the review. This would require a further public review period for the revised ER and possibly public information opportunities at various locations (Foleyet, Chapleau and Timmins) to inform stakeholders and the interested public about new information and project design.

In the absence of a re-issued ER, additional information and associated review will be required prior to any permits or approvals being considered e.g. permits and approvals associated with the Crown Forest Sustainability Act, Public Lands Act and the Lakes and Rivers Improvement Act (and possibly the Aggregate Resources Act and Fish and Wildlife Conservation Act if required). This may result in significant project delays.

Additional detailed comments can be found in the attached itemized comment submission. We trust that this provides a clear outline of OMNR's review and we look forward to working with Xeneca to address outstanding information gaps, subsequent effects evaluation and proposed mitigation strategies.

If you have any questions or require clarification on any points raised within this letter or the attached comment submission, please contact myself or Tim Mutter at (705) 864-3139.

Sincerely,



Paul Bernier
District Manager
Chapleau District

c.c. Ginette Brindle, MNR
 Carrie Hayward, MNR
 Pierre Corbeil, MNR
 Sandra Dosser, MNR
 Jim Beal, MNR
 Paula Allen, MOE
 Laurie Brownlee, MOE
 Alan Rowlinson, DFO
 Dan McDonell, CEAA
 Haya Finan, Transport Canada

Sequential Comment Number	Chapter	Section	Sub-Section	Title	Page/Line (if Applicable)	Section Comments	General Comments
1	Exec Summary				Pg 5, line 6	Regarding the statement "The proponent necessarily reserves the right to variances between the conceptual design presented herein and the detailed engineering design subsequent to the completion of the environmental assessment, provided that such variances do not materially and negatively impact the environment beyond the scope of the impacts described herein". It is not just the material and negative impacts to the environment that must be looked at. All variances subsequent to the completion of the EA must also be assessed for adequacy of Aboriginal consultation. As such, there may be a need for additional Aboriginal consultation to fully inform the communities of the final project details, elicit concerns, interests and information regarding potential mitigation, and seek mitigation options as necessary.	
2	Exec Summary				Page 5, line 10	Regarding the statement "Based on First Nation input, alternative materials other than concrete, will be considered in construction pending approval by the Ontario Ministry of Natural Resources (MNR)". This commitment needs to be specifically listed in Section 10 Commitments of the ER.	
3	Exec Summary				Page 8, line 34	The text contains a commitment regarding the "planting of cedar to mitigate aesthetic impacts", however this commitment is not listed in Section 10 Commitments of the ER. All commitments made in the ER need to be listed in Section 10 of the ER.	
4	Exec Summary					The proponent indicates that a continuous environmental flow of 2.37-2.6 m ³ s ⁻¹ will be continually available below the dam. Most of the time this will be augmented by turbine flows and spilled flows, however at other times this proposed flow is less than the monthly Q95 flows. The Q95 is defined in the scientific literature as a low flow or extreme low flow condition.	
5		1.1		Waterpower in Ontario	pg. 1	In the Introduction to Project section it is explained that the "Third Falls" GSS site is being evaluated separately, under the Ontario EA Act and the CEAA. In discussions with Xeneqa, MNR understands that the inundation area associated with the proposed Third Falls development may extend to the base of the Chutes site. Would these two developments not constitute one related cumulative impact on the Iroquois River and therefore subject to one EA review? MNR also heard MOE express this concern previously (EA scoping meeting) and it appears that Xeneqa has not addressed this issue. We suggest that these two projects should not be assessed in isolation and the proponent should reconsider the EA process in this regard.	
6		1.2		Introduction to Project			
7		1.3		Overview of the EA Screening Process			
8		1.4		Approach to the Environmental Assessment	pg. 5-6	This section describes that transmission facilities less than 115kv are Categorized A projects under reg. 11E01 (as identified in the OWA Class EA) yet the proposed transmission corridor for the Chutes is being included as part of this EA because it is required for the Federal CEAA process. MNR supports a coordinated and integrated process for the entire waterpower project (including the transmission lines). To ensure that MNR has the sufficient information and analysis to support making decisions on dispositions associated with the transmission line, the following is required: The screening table found in the Class EAs is an effective tool that allows MNR staff to identify potential environmental effects of a proposed project and help ensure effective mitigation measures are developed and implemented to minimize the effect of the project. The screening supports MNR making an informed decision prior to issuing dispositions.	
9		1.4.1		Legal Framework	pg. 5-6	By using the screening approach for the proposed transmission corridor, MNR staff can determine whether the project has either: 1) nillow potential net environmental effects or 2) moderate /high potential net environmental effects. This determination is to support MNR in managing its proprietary rights and whether we ought to or not issue the disposition for the proposed transmission corridor. In addition, the requirements in the Application Review and Land Disposition Process (PL 4.02.01) must be met prior to issuing a disposition. Where a project has potential net mod/high environmental effects, MNR staff will work with proponents on establishing an evaluation process which could include: o A description of the alternatives for carrying out the project o A description and evaluation of the environmental effects for the alternatives, including mitigation and monitoring requirements o Consideration of the comments received from the notice o Rationale for choosing preferred alternative	
10		1.4.2		Characterize Local Environment of Proposed Development			
11		1.4.3		Identify Potential Environmental Effects	pg. 7	This section does not adequately describe the potential environmental effects associated with this project within a zone of influence that has been agreed upon by all relevant agencies. Additional information will be required prior to permitting and approvals. Appendix B is incomplete as it is missing meeting minutes of the June 15 2011 meeting in Timmins. Also the appendix should include a description of contents including a full table of documents and the "Potential Environmental Effects" should be presented	
12		1.4.3		Identify Potential Environmental Effects	pg. 7	This section mentions that the "Environmental Assessment (EA) team developed a summary of recommended actions to prevent or mitigate negative effects of the proposed undertaking". As per the comment above, the negative effects have not been properly identified. Where is the "summary of recommended actions"? This summary is not provided within this Environmental Report (ER) document.	
13		1.4.4		Identify Required Mitigation, Monitoring or Additional Measures			
14		1.4.4		Investigations		Appendix of commitments should be introduced with specific monitoring and mitigations presented	

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15		1.4.5	Agency and Public Consultation and Aboriginal Communities Engagement		MNR is concerned that the public consultation component of this EA process will be insufficient to provide for OMNR permits and approvals. Different information was presented at different PICs and no notice was specifically provided that significant project details had changed. For example, the extent of inundation changed drastically from one open house to the next. Additional consultation may be required for MNR permitting.	
16		1.4.5	Agency and Public Consultation and Aboriginal Communities Engagement		Agency and Public Consultation part show no consultation with SAC of Mattagami River Water Management Plan.	
17	2		Existing Conditions	Pg 12	It is mentioned here that water level/flow manipulations at Iwahose Lake Dam (MNR controlled) may potentially impact the levels and flows at the Chute. The proponent should have a clear understanding on how the MNR dam is operated and how it may affect the levels and flows at the Chute site. This understanding is needed such that the dam operating plan for the Chute site can be developed based on accurate flow/level information regarding the dam operation. From the MNR dam area, the proponent should also be aware of the potential for increased turbidity, thermal conditions in the river, etc. In order to understand the potential impact of the Chute dam operation and be able to develop a relatively precise dam operating plan, the influence of the MNR dam must be clearly understood and presented in the ER.	Section is lacking information required for OMNR permitting and approvals. Additional information may be required prior to granting of any permits and approvals.
18		2.3	Topography			
19		2.4	Climate			
20		2.4	Climate			
21		2.5	Soils		More information on soils is required to understand impact of dam operation on riverbanks and channel morphology. A quick look at some online information revealed the following reference: Evans & Cameron, 1984, Reconnaissance soil survey of the Fobyes-Chapleau Area, Northern Ontario, Ministry of Natural Resources, 40p. + maps.	
22		2.6	Geology		More information required - impact of program cannot be assessed if not known what dam will be sitting on/around. A quick look at some online information revealed the following reference: Thurston et al., 1977, Geology of the Chapleau area, districts of Algoma, Sudbury, and Cochrane, Ontario Division of Mines, 239p.	
23		2.6	Geology		Statement of fine substrates running between bedrock outcrops" is inconsistent with information presented by desktop erosion study (Annex 1-C). Substrate as defined here will be highly susceptible to erosion and this potential must be considered prior to any permitting or approvals being granted.	
24		2.7	Hydrogeology		The inventory of wells should be looked for the entire reach of river including third Falls site with in 1 KM of the either side of river to assess the effects on all wells along the river not only around the dam site.	
25		2.8	River Hydrology		The drainage area at the Chute site was calculated to be 2730.5 km ² , which is a minor difference from the 2723 km ² listed in the ER. What is the source of the MNR 2010b reference? (It is not in the Reference List)	
26		2.8.1	Water Levels, Flow and Movement		Please mention the section and page within the report where the potential impacts have been described.	
27		2.8.2	Surface Water Quality		All surface water quality information is described by a single sample taken at each site during each period. This does not provide adequate duplication to determine confidence intervals associated with parameters. At minimum, triplicate samples should be taken at each site to build adequate baseline information and a zone of natural variability. Information as presented is not adequate to provide baseline characterization of surface water quality at the Iwahose Site and further information may be required prior to permitting and approvals being granted by the OMNR.	
28		2.8.2	Surface Water Quality		Sampling should have been continued year over year to provide an idea of temporal variability which will allow future separation of impacts of climate vs impacts of projects	
29		2.8.2	Surface Water Quality		Additional sampling sites (including a control) should be added to determine a real baseline as this will aid in future impact assessment.	
30		2.8.2	Surface Water Quality		Thermal regime changes have been expressed as a concern of the OMNR. As no information has been collected on this, the impact of proposed construction and operation have not been described and remains unaddressed by the report. This must be remedied prior to approvals and permits being granted.	
31		2.8.2	Surface Water Quality		OMNR has consistently requested a pre-construction survey of the thermal regime of the river using in-stream thermistats. This survey would inform Xeneca and the OMNR of the baseline conditions to address thermal regime concerns and may be required prior to permitting and approvals.	
32		2.8.2	Surface Water Quality		The document states that only "generalist" species were sampled, while Annex 1-B describes specialist cold-water species. Any impact to the thermal regime of the river will be detrimental to these species. The ER does not describe the expected impact to the thermal regime, thus purpose 2 (d) of the Lakes and Rivers Improvement Act (LRIA) cannot be fulfilled.	
33		2.9	Ecology		Zone of influence defined by the Environmental Approvals has not been agreed upon by the Ontario Ministry of Natural Resources. Evidence as presented in the ER is insufficient to determine the zone of influence. The zone of influence extends only 520 m downstream from the construction. In addition, the upstream dynamic inundation zone remains unassessed making any determination of effects and/or mitigation impossible. Agreement must be reached prior to the consideration of further permits and approvals. Further modelling with the support of MNR and MCE hydrologists is required to confirm the upstream and downstream zone of influence.	
34		2.9	Ecology		Brook trout have been reported by stakeholders both upstream and downstream from the project location. Tributaries both upstream and downstream from the site are known to hold brook trout populations. There remains some question as to whether sampling as conducted was sufficient to detect this species.	
35		2.9	Ecology		Without inclusion of the 2011 field data where the additional inundation area was to be assessed, it is impossible to determine the impact of the proposed project on the natural environment within the expanded inundation area. This must be addressed prior to any permits or approvals being considered by the OMNR.	
36		2.9	Ecology		The goal of ER is to assess and mitigate potential project impacts. Without including areas known to be impacted this is impossible. The information as presented will not be sufficient to inform the OMNR in meeting legislative obligations.	
37		2.9	Ecology		The ecology section should not only include information from SJP, but also summarize information gathered from NRSI investigations	

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38			2.9.1	Terrestrial Habitat and Species		A Bald Eagle with probable nesting activity has been observed by NRSI. The breeding location may need to be confirmed. It is likely that Common Nighthawk and White-poor-will are in the area, therefore, evening surveys to confirm presence/absence will be required prior to permitting, as thus far only morning surveys were conducted.	
39			2.9.1	Terrestrial Habitat and Species		No turtle surveys (basking, etc) were conducted though snapping turtles have been reported from Foleyet and painted turtles are known to be in the area. There has also been unconfirmed reports of Wood Turtle in the area, however, no validation of this has been made available. This is a data gap that should be addressed.	
40			2.9.1	Terrestrial Habitat and Species		Annex III discusses "commitments to understanding the potential impacts of the proposed Chutes GS will be further discussed through impact assessment, detailed design, and permitting stages of work". The purpose of the EA is to understand the potential impacts of the proposed project and mitigate potential negative impacts as appropriate. This is highly inconsistent, if further commitments to understanding the potential impacts are being proposed by Xeneca, they should be included in the Environmental Report to inform OMNR permits and approvals. Without this information, additional information will be required from Xeneca prior to permitting and approval.	
41			2.9.1	Terrestrial Habitat and Species		Annex III suggests that additional work will be required to determine the significance of the study area for large woaded demming. This represents a commitment from Xeneca.	
42			2.9.1	Terrestrial Habitat and Species		This annex III assessment on terrestrial areas (section 8.2.1.1) describes that sufficient information is available to conduct an impact assessment because of a lack of field information and the changing descriptions of the headpond. Thus the impact assessment is incomplete. This must be rectified prior to any permitting or approvals being granted.	
43			2.9.1	Terrestrial Habitat and Species		As described in Annex III, additional survey information is required for the proposed generating site. Bydown areas and proposed access roads prior to any permitting for construction to ensure that no significant wildlife habitat features or other sensitive values are impacted. Without detailed knowledge of what is in the sites, no assessment of impacts can be made. Xeneca commits to conducting these assessments in Annex III, and these assessments will be required prior to any sort of location approval being granted.	
44			2.9.1	Terrestrial Habitat and Species		Section 8.2.5 describes the proposed embankment. Details as to the proposed impact of this embankment (i.e. ponding/flooded areas, extent to be flooded, new drainage channels, habitat loss) must be presented to adequately assess impacts for the Environmental Report and OMNR approval. This information is absent from this report.	
45			2.9.1	Terrestrial Habitat and Species		No understanding of the impacts of peaking activity on terrestrial wildlife in the dynamic inundation zone is presented. At minimum, peaking activity will impact any edge-associated wildlife and activities (i.e. beavers, muskrat, otters, moose aquatic feeding areas). Existing wildlife concentrations and expected impacts should be presented (i.e. beaver houses) within the 6.4 km headpond. Currently, the dynamic water level associated with the peaking activity will prevent Moose Aquatic Feeding Areas from functioning within any area that will be experiencing water level fluctuations. These impacts must be described, alongside an understanding of the spatial extent which will be impacted by this activity (e.g. will 6.4 km upstream and 37 km downstream of site lose all potential aquatic feeding areas?). This must be further developed prior to any sort of location approval being granted.	
46			2.9.1	Terrestrial Habitat and Species		The ER report on OMNR.	
47			2.9.1	Terrestrial Habitat and Species		Incomplete 2011 Field season results not included so cannot comment on full extent of terrestrial wildlife and habitat impacts or mitigation measures.	
48			2.9.1	Terrestrial Habitat and Species		Good use of ELC and significant wildlife habitat approach in Annex III and appendices. This approach should be applied to additional 2011 study area as well as roads and transmission corridors.	
49			2.9.2	Aquatic Habitat and Species		On page 29 of the Natural Environment Characterization and Impact Assessment Report it states that there are several areas that have suitable substrate for spawning walleye upstream of the Chutes. Please explain why visual surveys were not performed and egg mats were not deployed at this location.	
50			2.9.2	Aquatic Habitat and Species		On page 57 of the Natural Environment Characterization and Impact Assessment Report it states that sediment control measures will be routinely inspected to ensure they are functioning as intended. The amount and fashion of monitoring should be described, as well as detailing the sediment control measures that will be utilized.	
51			2.9.2	Aquatic Habitat and Species		Given that stakeholders have reported angling of sturgeon at the base of the Chutes, the field program should have been extended to demonstrate that sturgeon are not actively using the Chutes site with the sturgeon trot lines. In addition, sampling should be consistent (i.e. 1.5 hrs vs 16 hr set times).	
52			2.9.2	Aquatic Habitat and Species		Sampling as described is insufficient. Electrofishing and other methods should be deployed to determine fish assessment.	
53			2.9.2	Aquatic Habitat and Species		Only northern pike were captured during the angling portion of the walleye spawning survey. What types of bait were used while performing this portion of the walleye spawning survey and how come angling did not occur prior to 11:30 am on any of the days that the study was performed?	
54			2.9.2	Aquatic Habitat and Species		On page 66 of the Natural Environment Characterization and Impact Assessment Report it states that the impacts related to cavitation at the chute generating station are also anticipated to be minor. Please explain the selection of the turbines which can operate at a high gate generation efficiency and the impact of cavitation on the turbines. It is unclear that the turbines selected are the best option for the project. What type of cavitation impacts be considered (or determined) minimal if it is still undetermined what type and how many turbines will be used? Clarification will be required prior to any approvals or permits being granted.	
55			2.9.2	Aquatic Habitat and Species		Statements that fish species present in the river are generalists is highly misleading as several of the species rely on coldwater habitats and are highly susceptible to changes in the thermal regime of the river. This is not a warm water assemblage and the ER should be changed to reflect this.	
56			2.9.2	Aquatic Habitat and Species		No assessment was done of the dynamic inundation zone (3.5 km of river). This is not a warm water assemblage and the ER should be changed to reflect this. assessment may be required prior to any permits/approvals being granted by the OMNR.	
57			2.9.2	Aquatic Habitat and Species		No data collected during the 2011 field season is included in this assessment. Adequate baseline information requires several years to determine scope of variability. Without this information, assessing any project impacts through monitoring is very difficult. This must be addressed prior to LRA approval. Documentation from NRSI suggests that these could be high-value habitats thus this must be assessed prior to construction to determine the contribution to the aquatic ecosystem integrity of the area.	
58			2.9.2	Aquatic Habitat and Species		High value habitats are likely within the upper dynamic inundation zone, including excellent potential spawning locations and potential brook trout habitat. This must be assessed prior to any consideration of permitting approvals.	

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59		2.9.2		Aquatic Habitat and Species		Information presented in Annex III is focused solely on fish while the OMNR has consistently requested information on the aquatic community (including benthic macroinvertebrates) to provide an understanding of baseline conditions prior to development. This has not been conducted to date, making any assessment of impacts to this sensitive portion of the community impossible. This information is required to determine the impact of the proposed project construction/operation on the aquatic ecosystem. This information will be required prior to permitting and approvals.	
60		2.9.2		Aquatic Habitat and Species		Walleye begin spawning at 6°C. Temperatures indicated by survey conditions are circa 8°C. There is a high likelihood that spawning locations have been overlooked because of the late sampling. Thus, information collected in 2010 should not be considered 'typical'. The inadequacy of this information will make it difficult (if not impossible) for the proponent to fully describe the potential impacts of the proposed development and operation of the facility on recruitment of this valued ecosystem component.	
61		2.9.2		Aquatic Habitat and Species		The scientific name for cisco is <i>Coregonus artedii</i> .	
62		2.9.2		Aquatic Habitat and Species		The RIN used in 2010 was non-standard making the results inadequate for biodiversity or community assessment. It will be difficult to mesh with a 2011 RIN that is standardized, meaning that baseline conditions will be restricted to one-year. It is likely not adequate to determine any project-specific impacts during post-construction monitoring and mitigation. This baseline will have to be continued into the future to be used and may be required prior to any permits and approvals being granted by the OMNR.	
63		2.9.2		Aquatic Habitat and Species		Electrofishing was conducted on too few sites to fully determine if brook trout were present in the river. This remains an outstanding question for the ER, meaning that any potential impacts cannot be determined. This must be addressed prior to any permitting and approvals.	
64		2.9.2		Aquatic Habitat and Species		OMNR has consistently requested that Xeneca provide information on the tributaries that may be impacted by inundation/dynamic inundation. This is absent from the ER and is an outstanding question. Without this information, no determination can be made of the potential impacts of inundation on these sensitive environments. This may be required prior to any granting of OMNR permits and approvals.	
65		2.9.2		Aquatic Habitat and Species		NRSI report suggests potential for upstream fish migration through the eastern channel at the Chutes - this was not considered by OMNR staff. Xeneca, DFO and OMNR must determine if upstream movement is a possibility, and determine potential impacts if so.	
66		2.9.2		Aquatic Habitat and Species		NRSI report suggests that insufficient information was made available to adequately determine what the impacts of the proposed facility may be on the aquatic ecosystem of the Ivanhoe River. This must be addressed to ensure that purpose 2 (d) of LRIA is maintained. This lack of information may need to be addressed prior to permitting and approval.	
67		2.9.2		Aquatic Habitat and Species		Although the ER is to be a 'binding' document, the lack of information prevents any solid commitments of monitoring or mitigation to be determined. Commitments from Xeneca may be required prior to permitting and approval being granted.	
68		2.9.2		Aquatic Habitat and Species		The ER suggests that benthic communities are likely to change in the inundated areas. Without adequate baseline information, it will be impossible to detect, mitigate or compensate for these changes. This must be addressed prior to any permits and approvals being granted.	
69		2.9.2		Aquatic Habitat and Species		Impacts to the aquatic environment from construction cannot be determined from the limited information presented in Annex III. This information gap may need to be addressed prior to any permits and approvals being granted by the OMNR. Best management practices are presented, but are not specific to the project.	
70		2.9.2		Aquatic Habitat and Species		As described in Annex III, a monitoring program must be discussed prior to any LRIA approval. The existing design calls for substantial loss of spawning habitat that will likely detrimentally impact an important sport fishery. Monitoring must be conducted to determine to what extent population will be impacted and to determine mitigation.	
71		2.9.2		Aquatic Habitat and Species		The necessity of the earthen embankment has been in question throughout this process. Will this structure be required? If yes, further details will be required, as this dam will require a separate LRIA approval and separate analysis of baseline environmental conditions.	
72		2.9.2		Aquatic Habitat and Species		Mitigation strategies are described as general controls which will be insufficient for the purpose of fulfilling the requirements of OMNR permits and approvals.	
73		2.9.2		Aquatic Habitat and Species		NRSI report suggests potential for large changes in quality of spawning areas downstream from the powerhouse and spillway. The proponent must demonstrate through modelling what the impacts of the proposed construction will be for LRIA approval. As presented, this information is insufficient to determine what the impacts of facility operation may be.	
74		2.9.2		Aquatic Habitat and Species		Insufficient information has been presented to make determination of impacts derived from entrainment or turbine mortality. No mitigation is committed to because of this lack of information. This should be addressed prior to OMNR permits and approvals.	
75		2.9.2		Aquatic Habitat and Species		As described in section 8.4.4.2 of Annex III, substantial modelling will be required by the proponent prior to the granting of OMNR permits and authorizations associated with the proposed project. The absence of this information in the ER is disturbing.	
76		2.9.2		Aquatic Habitat and Species		No information has been presented for further monitoring. This will be required prior to any OMNR permits and approvals.	
77		2.9.3		Valued Ecosystem Components		VEC section should include the socioeconomic importance of each component as access, walleye, pike, etc provides for local tourism opportunities.	
78		2.9.3		Valued Ecosystem Components		This section on Walleye seems to be strongly impacted and status of walleye populations at this site. Walleye are increasingly angled by stakeholders and the population appears quite healthy. No statement can be made regarding potential spawning locations in the inundation zone as no assessment has been done on upper reaches and temperatures of 2010 survey were questionable.	
79		2.9.3		Valued Ecosystem Components		Northern Pike are desired angling species and have healthy populations in the area.	
80		2.9.3		Valued Ecosystem Components	pg 20	Large weasel denning is included in section but not referenced at the front. Is this assuming large weasels are a VEC?	
81		2.10		Cultural Heritage		It is general practice that a stage 1 and 2 archaeological assessment is conducted within areas that have high potential for the disturbance of unidentified cultural heritage resources. A stage 2 has yet to be complete for all areas within the zone of influence that have high potential - including the area of inundation. MNR will require confirmation from the Ministry of Tourism and Culture that all cultural heritage planning requirements have been met. A stage 1 and 2 archaeological assessment may also be required for areas of high potential within the proposed transmission corridor.	

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82	2.10			Cultural Heritage	Pg.20	The text needs to also document potential for Culturally Modified cedar trees along the existing river and a reference to the Construction Management Plan annex detailing on how CMT's will be dealt with if located within the project proposal area. The stage 2 assessment should be set up to have the archaeologist review the project area for the presence of CMT's so appropriate planning can take place prior to construction phase.	
83		2.10.1		Archaeological Sites			
84		2.10.2		Buildings and Structures			
85	2.11			Current Land and Water Use			
86		2.11.1		Access	Pg. 21	This section mentions the boat launch, but does not reference the campsite or parking location at the boat launch that has been used extensively for many years. How will the access point, campsite, and parking area be affected by this project and how will any negative impacts be addressed?	
87		2.11.2		Navigation	Pg. 21	This section mentions that the campsites "East" of the falls are used extensively. Which campsites are being referred to? The campsite at the boat launch or the campsites located further South (approx. 200m) along the access road that leads into the chute site?	
88		2.11.3		Recreation Use and Commercial Tourism		Also it is mentioned here that the falls are valued aesthetically by local residents (and tourists). How many people come to the site every year to view the falls? How does this contribute to the local economy of the area? What will be the impact of the project on the aesthetic value of the falls? How will negative impacts on aesthetics be avoided or mitigated or remedied?	
89		2.11.3		Recreation Use and Commercial Tourism	Pg. 21	This section does not mention the importance of this site to local commercial tourist outfitters. It is known that several outfitters in the area use this site extensively for angling, hunting, camping, nature appreciation, viewing the falls, etc. How will this project affect other commercial users of the site? Has Xeneca completed any studies to quantify the level/degree of local commercial activity and its relative importance to the local/regional economy? How has Xeneca determined that this proposed project will not unnecessarily affect existing businesses in the area and how does Xeneca plan to mitigate any lost revenues or other economic spin offs? The information regarding existing commercial tourism use of this site is inadequate for the purposes of fulfilling OMNR requirements for permits and approvals.	
90		2.11.3		Recreation Use and Commercial Tourism	Pg. 21	There is no discussion in the ER with respect to winter use of the Vantooe river and how this development may affect ice conditions and public safety. How many people use this river for ice fishing, snowmobiling, dog sledding, snowshoeing, etc.? How will this development and associated intermittent flow operations affect ice conditions and public safety? Have these impacts been assessed? If not, why not? If/when negative impacts are identified, how does Xeneca propose to mitigate these concerns?	
91		2.11.3		Recreation Use and Commercial Tourism	Pg. 21	The ER does not address other recreational features as well. The boat launch at the base of chutes has been used for generations and is critical for accessing the Vantooe River for recreational users, tourist outfitters, trappers, and BMA operators among others. Has Xeneca considered how the boat launch use may be affected by this proposal? Are there plans to re-build another boat launch to proper specification? This is an important piece of local infrastructure that needs to be considered and any negative impacts addressed appropriately.	
92		2.11.4		Forestry		Xeneca has also not addressed the canoe route portages adequately. This river is a historical route and the portages have been used for generations. How has Xeneca considered these features associated with the canoe route and how does Xeneca propose to ensure that these features remain useable for several more generations?	
93		2.11.5		Hunting/Fishing Opportunities	Pg.22	It is mentioned here that the chute is used extensively for angling and supports a "number" of tourist outfitters. How many anglers use the site every year for angling? How many tourist operators are using this site and what percentage of their business relies on this section of the river? How does this contribute to the local economy of the area? What will be the impact of the project on the angling and tourism use of the site? How will negative impacts on recreational use and commercial tourism use be avoided or mitigated or remedied?	
94		2.11.5		Hunting/Fishing Opportunities		Numbers to describe the extent of usage of the site are needed. How many operators? What is the contribution to the local economy? This information is needed to determine the potential impacts of the project and to inform OMNR permits and approvals. OMNR has provided information on the usage of the site and anticipated its inclusion into the ER to fully determine local impacts of project. Because the inundated zone will reduce the habitat that fur bearing mammals would have utilized how will the trappers be compensated for potential decrease of fur harvest and revenue from that lost fur.	
95		2.11.6		Trapping and Barfish Harvesting		Trappers need to be consulted regarding loss of trapping area and boundary displacement on the landscape Because Bear Management Areas (BMA's) harvest levels are based on the total square kilometers of their respective BMA(not including water), the reduction or area caused by the inundation zone may directly affect (in many cases) an outlier can harvest therefore affecting the amount of hunters that the outlier can have on that BMA resulting in fewer hunters. How will the outlier be compensated for that loss? BMA CP-30-024 should also be included in Section 2.11.6 as this BMA will also be affected by the inundations zone. Both BMA outfitters (CP-30-05 and CP-30-24) should be consulted regarding decreased area of land on BMA and boundary displacement on the landscape.	
96		2.11.6		Trapping and Barfish Harvesting	22	The current trapline boundary between CP11 and CP12 is within the proposed flooding area. The amount of water on these traplines will increase however this will change the area and the features that these trappers traditionally used to determine their trapline boundary. These trappers should be consulted with regarding the inundation area and how it may change the features there have typically used to determine their trapline boundary.	

Sequential Comment Number	Chapter	Section	Sub-Section	Title	Page/Line (if Applicable)	Section Comments	General Comments
97			2.11.7	Protected Areas	Pg. 22	This section does not address whether or not the impacts of the proposed development will impact the protected areas downstream and their associated values for which they were protected. OMNR discussions suggest that the ZOI will extend past the boundary of the CR. Under the PPCRA and provisions of the LRA, the proponent does not have the right to flood within the protected area beyond that which would normally occur. The proponent does not have the legal right to cause erosion within the conservation reserve or park downstream. How will this be assured? What plans are in place to monitor any changes to the natural environment within these protected areas? What corrective actions will be pursued if negative impacts are evidenced. MNK is concerned with the lack of investigation and analysis on the impacts of flow manipulation on the downstream protected areas. What will be the impact of the increased flow on the riparian habitat? How will the riparian habitat be protected during day-time plant operation, seasonal transport and accelerated erosion? This ER has not fully scoped the potential impacts on these protected areas and how these impacts may be addressed.	
98			2.11.8	Mineral Resources			
99			2.11.9	Aboriginal Land and Water Use			
100		2.12		Social and Economic	Pg 24	This entire section is very presumptive and does not have proper references. How did Xeneca determine that Foleyet is "in a state of economic decline"? Where did Xeneca reference the statement that "the employment rate is very low"? And how does Xeneca qualify the statement that "The town of Foleyet for the most part relies on the income from the summer cottaging community to sustain local businesses"? Did Xeneca consider things such as mineral development in the area, provincial park revenues and employment, forestry contractors, etc. MNR would suggest that the Foleyet local services board should be consulted when re-writing this section - as it is not a true reflection of the economic setting of the area and should be revised to accurately reflect the local environment.	
101			2.12.1	Employment and Economic Setting			
102			2.12.2	Water Supply	Pg. 25	It is mentioned here that the falls are valued aesthetically by local residents (and tourists). How many people come to the site every year to view the falls? How does this contribute to the local economy of the area? What will be the impact of the project on the aesthetic value of the falls? How will negative impacts on aesthetics be avoided or mitigated or remedied?	
103			2.12.3	Area Aesthetics		Does the remainder of the area of influence not have any aesthetic appeal or value? Why has this not been mentioned? How did Xeneca determine that the aesthetics associated with the rest of the river reach and associated rifle sections does not have any aesthetic value worth mentioning in this section?	
104	3			Description of Proposed Project			Section is insufficient for permitting/LRA approvals.
105		3.1		Description of Proposed Hydroelectric Facility			
106		3.2		Design Options and Rationale			
107		3.3		Generating Station Components			
108		3.3.1		Installed Capacity and Annual Energy Output		Based on the information provided by Xeneca, capacity calculates to be 2.29 MW, (as opposed to 3.6MW), (Data, Long Term Annual Flow = 28.7 m ³ /s, Effective Head = 9.0 m Turbine Efficiency = .82, Generator Efficiency = .92). Based on this capacity figure other dependent figures in this section are difficult to rely on. This has been brought up by the IER engineers since 2008. Why is proponent relying on higher and apparently false numbers? An earthen embankment requires LRA approval. OMNR will need to know where it is being built, and what will happen to water behind structure. Further information will be required prior to any permits or approvals.	
109		3.3.2		Headworks Structure		There is insufficient detail presented to fully determine impacts, therefore this is insufficient for approvals and permitting.	
110		3.3.3		Inake and Conveyance System			
111		3.3.4		Powerhouse			
112		3.3.5		Turbines			
113		3.3.6		Tailrace			
114		3.4		Ancillary Works			
115		3.3.4		Powerhouse		There is insufficient detail presented to fully determine impacts, therefore this is insufficient for OMNR approvals and permitting and further information may be required.	
116		3.3.5		Turbines		There is insufficient detail presented to fully determine impacts, therefore this is insufficient for OMNR approvals and permitting and further information may be required.	
117		3.3.5		Turbines		Section does not describe the design or name plate capacity.	
118		3.3.6		Tailrace		There is insufficient detail to determine the impact of tailrace on the aquatic environment. This should be rectified prior to any permits or approvals being granted.	
119		3.3.6		Tailrace		Quantity of Excavated material and its use or disposal is not known	
120		3.4		Ancillary Works			

Sequential Comment Number	Chapter	Section	Sub-Section	Title	Page/Line (if Applicable)	Section Comments	General Comments
121			3.4.1	Connection Line Route		<p>Two options are presented for the transmission corridor. Option 2 will not be reviewed at this stage, as it is stated that this option "will only be considered for construction if the Third Falls EA is approved." Xeneca has submitted the Chute EA only and therefore MNR will not review Option 2 until such time as the Third Falls EA is prepared and presented. MNR comments from here forward will only address the portion of the transmission corridor that originates at the Chute site and terminates at the point of connection. KBM Tiles 16, 17, 18, and 19 only will be reviewed as they are the only tiles specifically associated with the Chute project. If the Third Falls site is part of this project, then MNR suggests that one ER should be prepared to address the total cumulative impacts associated with both Venhoe River developments.</p> <p>In the June 21st KBM report, it is explained that the consultant sourced various data sets in order to evaluate the proposed transmission route, including LIO, NRCAN topo data, 2008 FRI, SPOT orthoregistry, NRVIS data layers. It has been pointed out previously (Xeneca agency meeting in Sudbury) that MNR holds some resource data internally that may not be available on the list of data sets that were reviewed. As such, Xeneca or KBM will need to engage in further discussions with Chapleau MNR regarding the proposed transmission route (Option 1) and further internal MNR review will be required before any permits and approvals can be issued to begin this work. For example, some sensitive value information is held internally and is not available publicly, such as locally known cultural heritage sites and sensitive fish and wildlife data (spawning sites, nests, etc).</p> <p>For the purposes of permitting and approvals, the ER does not provide sufficient detail with respect to the line corridor dimensions and exact location. How wide will the clearing be to accommodate the corridor? Will there be an access road along the corridor? Will there be water crossings installed for an access road along/within the corridor right-of-way? Will the corridor right-of-way begin immediately at the edge of the travel portion of the road or will it be measured from the ditching or otherwise? It is suggested that the transmission right-of-way will run along a significant portion of Hwy, 101. Will this be within the MTO right-of-way or immediately adjacent or otherwise? Has MTO been consulted on this proposal?</p> <p>A small portion of the proposed corridor appears to encroach upon the Viny Lake Uplands Conservation Reserve just north of Hwy, 101. Can Xeneca please confirm if the proposed corridor will be within the MTO right-of-way or if it will indeed encroach upon the CR boundary in this vicinity? If Xeneca plans to build the transmission corridor within the CR boundary, special approval will need to be sought from the Minister of Natural Resources prior to any permitting and approvals.</p> <p>Under the PPCR Act, section 20(2) states:</p> <p>Subject to the policies of the Ministry and the approval of the Minister, with or without conditions, utility corridors, including but not limited to utility corridors for electrical transmission lines, are permitted in provincial parks and conservation reserves, 2006, c.12, s. 20 (2).</p> <p>Section 21 goes on to state....</p> <p>Conditions for approval</p> <p>21. In approving the development of a facility for the generation of electricity under subsection 19 (2), (3) or (4) or approving a resource access road or trail or a utility corridor under section 20, the Minister must be satisfied that the following conditions are met:</p> <ol style="list-style-type: none"> 1. There are no reasonable alternatives. 2. Lowest cost is not the sole or overriding justification. 3. Environmental impacts have been considered and all reasonable measures will be undertaken to minimize harmful environmental impact and to protect ecological integrity, 2009, c. 12, Sched. L, s. 21. 	
122			3.4.1	Connection Line Route			
123			3.4.1	Connection Line Route			
124			3.4.1	Connection Line Route			
125			3.4.1	Connection Line Route		<p>As such, if Xeneca plans to build any utility corridor within the CR boundary, further discussions will need to occur with MNR. Xeneca will need to clearly demonstrate how the three points under Section 21 of the PPCR Act have been met. Please note that Ministerial approval may take several weeks to months before any permits and/or approvals can be issued and there is no guarantee that this approval will be granted.</p> <p>Public consultation: Xeneca is attempting to meet their EA requirements for all permits and approvals via this ER. With respect to the transmission corridor MNR is unconvinced that adequate public consultation has occurred and therefore further review and consultation may be required prior to any permitting and approvals. From our review of the PICs, it appears that very little information was provided with respect to the exact corridor location and routing. Several tiles were missing from the PICs which show the planned route. This does not meet MNR expectations for public consultation.</p> <p>Please ensure that applicable road sharing agreements are developed with the appropriate SFL holders.</p> <p>Proponent is recommended to refer to Part 1 and Part 4 of Work Permit application for each individual road upgrade and any new access roads- see section 3.5 for further details.</p> <p>Further details are needed on access for permitting and approvals. See work permit application for details. OMNR needs to understand where aggregates will be derived from. OMNR also needs mail routing for an effective review.</p>	
126			3.4.2	Electrical Substation			
127			3.4.3	Access Roads			
128			3.4.3	Access Roads			
129			3.4.3	Access Roads			
130			3.4.3	Access Roads			

Sequential Comment Number	Chapter	Section	Sub-Section	Title	Page/Line (if Applicable)	Section Comments	General Comments
137		3.5		Construction Strategy	Page 33 -		MNR requires Letter of Advice from DFO, proponent to organize, Proponent is advised that any tenure documents applied for that require surveys will be at the proponent's expense. Chapleau District MNR will provide Surveyor with Survey Instructions. MNR Chapleau District will review survey and send to Surveyor General for approval. Proponent is advised that this process may well take many months.) MNR to prepare interim Crown Lease to authorize the area that will encompass the footprint of the facility being constructed including work area, camp and laydown area etc. (Please complete Application for Crown Land) (survey required) and then MNR will prepare a Waterpower Lease Agreement, Work Permit required for connection line. (Please complete Application for Work Permit and Road or Trail Construction Part 4) Easement required for the connection line. (Please complete Application for Easement) (What is the boundary and area in ha?)
138		3.5		Construction Strategy	Page 33 -	Please see General Comments	Easement required for flooded area (survey required) (Interim LUP possibly) (Please complete 2 Application for Crown Land for a LUP and for an Easement) (What is the boundary and area in ha?) Proponent must review MNDWF claim maps for area of entire project and provide mitigation measures as required. From a Lands perspective, please be advised that the completion of the above mentioned applications is a preliminary information gathering exercise. The proponent will be required to supply MNR with additional information as we work together through the lengthy process of obtaining the required disposition and tenure documents for the Vanhoë River-The Chute Hydroelectric Generating Station Project.
139		3.5	3.5.1	Clearing and Gubbing	Page 33 -	Please see General Comments Any removal of merchantable trees will require the appropriate licensing. In order to facilitate licensing requirements, the following information will have to be acquired and forwarded to the MNR: a) Shapefile of total area to be clear (ha) (including the inundation area/transmission line/ROW) b) Collection of timber coupe data for merchantable trees (>=10cm @ dbh) (# of trees by species, diameter at breast height) Since the area to be cleared is already licensed under a SFL, the SFL holder must be offered the opportunity to harvest the forest resources, the SFL holder on the area to be harvested must be offered the forest resources for use in facilities under their SFL document.	
140			3.5.1	Clearing and Gubbing			
141			3.5.2	Aggregate Borrow and Laydown Areas		For laydown area complete Part 1 of Work Permit application - see section 3.5 for further details	
142			3.5.2	Aggregate Borrow and Laydown Areas	page 34	Details of the Crown Land aggregate that may be required for this project are not specific enough to enable meaningful Aboriginal consultation. Additional Aboriginal consultation may be required prior to the issuance of permits and approvals by MNR.	All aggregate material used for this project must come from an approved aggregate permit site. Please identify all sources of granular material for this project. An application for an aggregate permit may have to occur. Please refer to the following link for information regarding the application process http://www.mnr.gov.on.ca/en/Business/Aggregates/index.html or contact the Chapleau MNR office.
143			3.5.2	Aggregate Borrow and Laydown Areas		Aggregate for construction of roads, embankments, yards, coffer dams and concrete structure backfill will be primarily sourced from re-used granular material created during road construction and site excavation.	What sites for borrow areas has Xerica identified for extraction of material? Are there any aggregate permits existing and operated by another aggregate permit holder? Will Xerica be applying for an Aggregate Permit within these identified locations? Please identify these areas as an application for an aggregate permit will be required for these sites to extract any material for the project.
144			3.5.2	Aggregate Borrow and Laydown Areas		Several borrow material areas have been identified within 5 km of the project site.	
145			3.5.2	Aggregate Borrow and Laydown Areas			

Sequential Comment Number	Chapter	Section	Sub-Section	Title	Page/Line (if Applicable)	Section Comments	General Comments
146			3.5.3	Cofferdams		Cofferdams will be constructed of cargo bags filled with clean, granular material re-used from excavation activities. Recommendations from NRS Annex III must be followed, i.e. only clean material only. Installation/removal must be done outside of the in-water timing restriction. Cofferdam type A preferred because of sediment transport issues. Sediment control measures will be required. Details of installation/removal must be submitted prior to any sort of approval being granted. No mitigation is described which is integral to the environmental report and must be provided prior to any further approvals and permits being considered.	Where is the re-used granular material coming from to fill the cargo bags? The amount of granular material needed to fill the cargo bags for the coffer dam will be a huge amount based on size design. This material can't be generated from on site excavation. Please identify a "permitted" excavation source of granular material for the cargo bags. Again, an aggregate permit will be required for any extract any aggregate from Crown Land.
147			3.5.3	Cofferdams		There are insufficient details of mitigation strategies to adequately assess this section. Will sediment control measures be used? Will dewatered areas go to sea or into nearby ponds? Additional information will be required prior to permitting/approvals.	
148			3.5.4	Dewatering		Dewatering of Powerhouse and Tailrace Canal	
149			3.5.5	Excavation of Powerhouse and Tailrace Canal		Describe proposed excavation methods. No description of necessary for in water blasting, excavation methods, etc. Without this information, any assessment of impacts is impossible.	
150			3.5.6	Concrete Production		An aggregate deposit owned by Custom Concrete has been identified in Foleyet.	Please identify specific location for the Custom Concrete aggregate deposit in Foleyet.
151			3.5.7	Connection Line		The proponent needs to confirm if there are any existing forms of tenure (i.e. land use permits, leases, etc.) and has the area been removed from staking (MNDM). Must complete Part 1 and Part 4 of a Work Permit application. Land Tenure for the Connection Line will be an easement but in the interim a Land Use Permit may be issued (see section 3.5 for further details). Provide MNR with a detailed site plan of the connection line.	
152			3.5.7	Connection Line		See comments under section 3.4.1	
153			3.5.7	Connection Line		The information provided on poles in insufficient. OMNR needs information on the spacing of poles, the types of poles that will be used, how the poles will be installed, any fire hazards associated with lines, etc. ? No mitigation strategies were presented. This section is insufficient for determination of impacts or for permitting/approvals.	
154			3.5.8	Management of Waste Materials During Construction		As pointed out in previous meeting with Xeneca, the Foleyet Waste Disposal Site is at capacity and currently being operated under an Emergency Certificate of Approval to accommodate the immediate needs of the residents and businesses of Foleyet. This facility will not accept construction waste from the chute project. Alternate waste disposal locations will need to be sought and this will be the responsibility of the proponent.	
155			3.5.9	Water Crossings		Must complete Part 1 and Part 4 of a Work Permit application for each water crossing. This includes an understanding of watershed area and a description of the proposed replacement. This information will be required prior to any permits or approvals being granted.	Any aggregate material used for the upgrades of Primary/Access roads must come from an approved aggregate permit site.
156			3.5.9	Water Crossings		Upgrades to access roads.	
157			3.5.9	Water Crossings		Work permit applications will be required for all installation and/or upgrading of water crossings. The information presented in the ER is insufficient to satisfy information requirements associated with work permits. The proponent must identify crossing locations, watershed area, structure type/size, proposed methods of installation and mitigation strategies for District review. The information as presented is incomplete.	
158			3.6	Operation Strategy		It is mentioned that a desktop erosion survey was conducted in order to identify sensitive areas. OMNR is unconvinced that a desk-top erosion study is adequate in order to characterize the substrate associated with Nanhoos River basin and how this substrate may be mobilized or otherwise affected by "modified peaking" operations at the chute site. What are the sediment regime characteristics i.e. grain/boulder sizes, propensity for transport at various flows, etc.? What is the real potential for erosional impacts? How sensitive are the shorelines within the zone of influence? How will accelerated erosion be monitored and mitigated? What plans does Xeneca have to modify the plant operations if accelerated erosion is observed? How will erosional impacts be rectified if observed? How will potential accelerated erosion impact fishery habitat and overall water quality?	
159			3.6	Operation Strategy		Lidar survey for the channel is not considered reflecting true picture of the channel section, due to reflections from water surface and reflection from tree canopies. Actual field survey will be desired for the hydraulic modeling of the river. Limitations of the Lidar survey has been recognized in Head pond inundation Mapping report Annex 1-D Section 4.5. Further field validation may be required prior to the issuance of any OMNR approvals and authorizations.	
160			3.6	Operation Strategy		Depending upon the nature of banks soil and variation in the levels due to operation, just desktop analysis is not sufficient to determine the extent of shoreline erosion.	
161			3.6.1	Site Operating Strategy		The Chutes will be operated such that flows downstream of the G.S. will fluctuate substantially and thus resemble a peaking facility. The off-peak term "lower flow" is problematic, a dry season would expect flows similar to a natural river, but this will not be the case for most of the year.	
162			3.6.1	Site Operating Strategy		The operational strategy is suggesting essential operation of the facility, at 8 hrs operation, 12 hrs peaking during week days and full peaking during weekends.	
163			3.6.2	Summary of Hydraulic Characteristics		The long term average flow of 26.7 m ³ s ⁻¹ agrees well with the MNR's average flow of 26.2 m ³ s ⁻¹ . Given the few years of flow data it is very difficult to predict 100-year flood and low flows.	
164			3.6.3	Operating Parameters for Water Control Structures		The MNR has used a consistent seasonal approach of WINTER (January to March), SPRING (April to June), SUMMER (July to September), and FALL (October to December). It would be best to keep to these seasons rather than the ones outlined in this section.	
165			3.6.3	Operating Parameters for Water Control Structures		As part of the EA process, MNR has consistently requested a preliminary dam operating plan. An acceptable dam operating plan has not yet been received. A preliminary dam operating plan typically describes the magnitude, duration, frequency, timing and rate of change of flows and levels including both generated and spilled flows. Without this information, it is not possible to determine what environmental effects may be expected from the operation of the facility and to propose any effective mitigation or monitoring strategies. A preliminary dam operating plan deemed acceptable by the OMNR will be required prior to the granting of approvals under the Lakes and Rivers Improvement Act.	

Sequential Comment Number	Chapter	Section	Sub-Section	Title	Page/Line (if Applicable)	Section Comments	General Comments
177		4.2		Consultation Strategies		How does Xeneca realize that the public had adequate time to review the proposals being presented and submit informed comments prior to the release of the ER? MNR recommended several times, as did members of the public, that PIC should be held in Timmins as several users of the Ivanhoe River reside in Timmins. A PIC was never held in Timmins. Why not? MNR feels that inadequate consultation was undertaken with respect to the project footprint (inundation zone) and the location/extent of the proposed transmission line. This should be addressed.	
178		4.2		Consultation Strategies		MNR is concerned that the public and Aboriginal consultation for this project was undertaken inadequately. From the initial Notice of Commencement to the Notice of Completion, the project description has dramatically changed several times. No addendums were provided to the projects descriptions to reference these changes. For example, the inundation zone associated with the head pond went from 2.5 kilometres to over 6 kilometres very recently. Why was the project description not updated to reflect this?	
179		4.2.1		General Print and Mailing			
180		4.2.2		Press Release			
181		4.2.3		Web Media			
182		4.2.4		Meetings			
183		4.2.5		Public Information Centres (PICs)			
184		4.3		Government and Agency Consultation			
185		4.3.1		Federal			
186		4.3.2		Provincial			
187		4.3.2		Provincial			
188		4.3.3		Municipal			
189		4.4		Public Consultation			
190		4.4.1		Industry	pg 70	The preliminary results of OMNR Chutes survey are presented in Appendix C - the comments presented by the general public have not been included the ER. These comments and concerns must be addressed prior to any approvals/permitting.	
191		4.5		Aboriginal Engagement		Third and fourth paragraph on pg 70 - the ER states "...the Aboriginal community engagement plan will formally begin after the issuance of the Notice of Completion which time the report will be provided to the community for review" and "Engage is ongoing and continues to work with First Nations and Métis communities throughout the project. The engagement plan will be updated as the project progresses. The engagement plan will indicate that Aboriginal consultation related to the issuance of permits and approvals by MNR has not been completed, and in some instances, may not have effectively commenced. Again, it is highly likely that additional Aboriginal consultation is required prior to the issuance of permits and approvals by MNR." MNR is highly concerned that the proponent has suggested that additional analysis of potential environmental impacts from the chute development will be completed after the results of 2011 field investigations. "...additional assessment of effects will be undertaken subsequent to the 2011 field investigations, and further discussion is planned between the EA team and interested parties." This methodology is counter to the purpose of the EA Act, even as acknowledged by the proponent themselves, Section 5 of the ER states "the purpose of an environmental assessment is to identify all the ecosystem components that make up the environment within the project area, and evaluate how the project would affect these valued ecosystem components..." MNR cannot understand how the purpose of the EA Act has been met if the proponent has not fully characterized and identified all the ecosystem components and evaluated how the project may affect them. All of the field work and impact analysis must, by definition, be completed prior to the release of this ER. The entire screening table is rife with statements that potential impacts are "unknown due to outstanding data and information." This defeats the purpose of an EA process. As mentioned, the proponent's responsibility is to ensure all potential impacts are reasonably understood and addressed prior to finalizing the Environment Report. This test has not been met.	
192		5.1		Identified Project Effects			
193		5.1		Identified Project Effects		OMNR has concerns with respect to Table 4 - as the purpose of the EA is to inform and mitigate any residual effects, this is impossible where insufficient data has been collected. This may need to be remedied prior to the issuance of any permits and approvals.	
194		5.1		Identified Project Effects		Concerns identified during inter-agency consultation by the OMNR are not listed in the Environmental Effects. Under "Significant Habitat From NBSJ report - Under Aquatic and Riparian Ecosystem" should include - Impacts of the construction of the Northern Chabot Forest River habitat/populations in riparian areas.	
195		5.1		Identified Project Effects		From NBSJ report - Under Aquatic and Riparian Ecosystem should include - Impacts of healthy construction/operation on the large weasel habitat/populations in riparian areas.	
196		5.1		Identified Project Effects		A concern presented during inter-agency consultation by the OMNR was not identified under the potential effects. Under "Fish Habitat" should include - Impacts of inundation and variable flows on available habitat for all life stages of fish present in the Ivanhoe River.	
197		5.1		Identified Project Effects		A concern presented during inter-agency consultation by the OMNR was not identified under the potential effects. Under "Fish Habitat" should include - Impacts on benthic macroinvertebrate communities across the zone of influence of the proposed project.	
198		5.1		Identified Project Effects		A concern presented during inter-agency consultation by the OMNR was not identified under the potential effects. Under "Fisheries" should include - Impact of the proposed project on the ability of the Chutes site to sustain current angling pressure including both numbers and quality of recreationally and economically important fish species such as Northern Pike and Walleye.	
199		5.1		Identified Project Effects		A concern presented during inter-agency consultation by the OMNR was not identified under the potential effects. Under "Fisheries" should include - Potential effects on sensitive coldwater brook trout populations in the upper end of the dynamic inundation zone.	
200		5.1		Identified Project Effects			

Sequential Comment Number	Chapter	Section	Sub-Section	Title	Page/Line (if Applicable)	Section Comments	General Comments
201		5.1		Identified Project Effects		A concern presented during inter-agency consultation by the OMNR was not identified under the potential effects. Under "Water Levels, Flows and Movement" should include - Impacts associated with flow fluctuations up and downstream of the Chutes on the aquatic ecology of the Vainho River including fish and macroinvertebrates	
202		5.1		Identified Project Effects		A concern presented during inter-agency consultation by the OMNR was not identified under the potential effects. Under "Water Levels, Flows and Movement" should include - Impacts of proposed baseflows (below that which has been observed previously) in the system on the aquatic ecology and fishery in the Vainho River.	
203		5.1		Identified Project Effects		A concern presented during inter-agency consultation by the OMNR was not identified under the potential effects. Under "Water Levels, Flows and Movement" should include - Concerns of the impacts of variable flows on the mixing zone of the Montclair Mine effluent and mixing of effluent from the Foleyet sewage treatment plant.	
204		5.1		Identified Project Effects		A concern presented during inter-agency consultation by the OMNR was not identified under the potential effects. Under "Tourism" should include - Loss of revenue to local operators as a result of lost fishing opportunities and aesthetically pleasing locations to place aliens.	
205		Table 4		Identified Project Effects		Where Xeneca commits to a best management practice, this BMP should be available for review elsewhere in the ER to ensure that the intent of mitigation measures is not lost.	
206		Table 4		Identified Project Effects		Where mitigation is "To Be Determined" - it is very difficult to determine if magnitude of residual effects if mitigation is not yet known. This will likely be required prior to any further permits and approvals being granted.	
207		Table 4		Identified Project Effects		Under "Water Quality" - Xeneca refers to an erosion survey - details required. If this is the desktop study in Annex 1-C, this study is not acceptable as a method to determine erosion potential of the proposed project.	
208		Table 4		Identified Project Effects		Under "Water Quality" - Proponent suggests that impacts of dam operation will be determined when final dam operating plan is provided through permits and approvals. This information is needed by the OMNR prior to permits and approvals to facilitate the process.	
209		Table 4		Identified Project Effects		Under "Fish Habitat" - Proponent suggests brook trout is not in the project area - given that the proponent has not assessed the dynamic inundation zone, nor has the proponent conducted any directed brook trout sampling in any fashion, this statement cannot be made.	
210		Table 4		Identified Project Effects		Although they may increase site specific small mammal densities initially, brush piles created adjacent to the cleared right of way will limit re-growth of forest cover and should not be used.	
211		Table 4		Identified Project Effects		Incomplete. Access Road assessment not completed so cannot comment on the environmental impacts, or mitigation measures.	
212		Table 4		Identified Project Effects		Incomplete. Connection Line construction assessment not completed so cannot comment on the environmental impacts, or mitigation measures.	
213		Table 4		Identified Project Effects		Loss of vegetation and terrestrial wildlife during powerhouse construction. Mitigation measures should include timing restrictions regarding clearing of forest cover. Timing restrictions need to address bird nesting periods, or assessment of area to be cleared prior to activities to ensure no nesting species are present. This applies to nest pond clearing as well where forest cover is to be removed.	
214		Table 4		Identified Project Effects		Table 4: natural vegetation and habitat linkages - Mitigation measures should include the use of erosion control measures to ensure exposed soils do not erode.	
215		Table 4		Identified Project Effects		Table 4: roadways and to ensure successful re-vegetation by native veg species.	
216		Table 4		Identified Project Effects		Table 4: Riparian Ecosystem - 2011 assessment not completed included in report so cannot comment on the full environmental impacts, or mitigation measures.	
217		5.1.1		Inundation		What is the range of fluctuation of water levels and how it will be limited without losing economic benefits? Headpond volume 275 000 m3 is based on a bathymetric survey or Lidar Survey. What is headpond contour level. Will proponent support the argument that this volume will be filled in few hours? What are these few hours for emptying and filling headpond volume? OMNR expressed concern at the lack of information on the expanded inundation zone at the June 15 meeting and questioned how impacts could be determined.	
218		5.1.1		Inundation		Length of upstream inundation i.e. 6.4 km is based on LTAF of 30.2. Moreover due to survey and model limitations as explained in Inundation report Annex 1-d. The full extent of the Chute site can not be determined. From this stems the need for a detailed survey and authentic hydraulic modeling. At the June 15 meeting, Xeneca committed to providing modelling evidence to assist in the determination of base flows for the site given that the flows proposed were far below that previously observed in the system. This is not reflected in the proposed operating plan. The plan does not address requested information including peak flows, frequency of peaking activity and expected impacts (both biotic and abiotic). This information will be required prior to any consideration of permitting/approvals.	
219		5.1.2		Flow Effects		For any understanding of mitigation, we require an understanding of how peak flows will be limited. For example, will activity be limited to once daily? Specifics are required, in addition to monitoring plans to determine to what degree erosion may be taking place. As presented in the EA, this information is missing.	
220		5.1.2		Flow Effects		Needs detailed study and analysis. This simple description does not work.	
221		5.1.2		Flow Effects		Information for mitigation to be provided. The report at least describe what the specific impacts may be, and how operational strategy will address these specific impacts. Generic statements are insufficient to determine potential impacts. Commitments made are vague and without any binding commitments which make any mitigative measures questionable. Agreement must be reached with OMNR prior to any sort of approvals/permits being granted.	
222		5.1.3		Aquatic Habitat (Ecological Flow/Water Level Requirement and Effects)			
223		5.1.3		Aquatic Habitat (Ecological Flow/Water Level Requirement and Effects)		Timing of releases during a 24-hr cycle is of special concern. Known impacts occur to salmonids when velocities are highly variable during the daytime hours. Thus, if peaking activity is to be conducted during the daytime hours, there is a potential for large effects that are not described by this ER. We require a detailed site plan of the footprint (area, basation of buildings, etc). Land tenure will be a lease but in the interim a Land Use Permit may be issued (see section 3.5 for further details).	
224		5.1.4		Project Footprint			
225		5.1.5		Fish Entrapment and Turbine Impingement and Turbine Mortality		As no specific turbine is planned, no impacts can be described and thus no mitigation/residual effects determined. This information will be needed prior to any permitting or approvals.	

Sequential Comment Number	Chapter	Section	Sub-Section	Title	Page/Line (if Applicable)	Section Comments	General Comments
226		5.1.6		Navigation		Stakeholders have suggested river is used for angling through the ice during the winter months - what will be the impact of peaking operations on the safety of these practices? What mitigation will be used to ensure public safety at downstream locations removed from the Chutes site?	
227		5.1.7		Public Safety			
228		5.1.8		Civil Structure and Private Property			
229		5.1.9		Surface Water Quality		Document describes potential for impacts on water quality as a result of shoreline erosion. Pre-planning and an understanding of the composition of the shoreline may be able to largely mitigate these effects. This must be explored prior to permitting/approvals. A desktop erosion study is not adequate for the purposes of permitting and approval.	
230		5.1.10		Area Aesthetics		Preliminary results of the OMNR/Xeneca use survey are presented in Appendix C - the area at the Chutes site is used heavily for picnicking because of the aesthetic value. The impacts on using this value are not described.	
231		5.1.11		Employment and Economic Effects		Commitments made by Xeneca in June 15 meeting to address OMNR concerns related to flows and outstanding baseline information are not addressed by this ER. This must be readdressed prior to any permit/approvals being granted by the OMNR.	
232		5.2		Consultation Issues and Resolutions			
233		5.3		Consideration of Accidents and Malfunctions			
234		5.4		Effects of Environment on Project		There is potential for climatic changes and significant alterations to average flows in the Manhoos River. Xeneca has modelled their development and forecast for return on investment based on historical flow records. If climate change results in severe flow alterations to the Manhoos river such that the project is no longer commercially viable, what are Xeneca's plans? Has Xeneca set aside adequate finances to ensure proper site decommissioning? What assurances do the people of Ontario have that the facility will be retired and decommissioned in a responsible fashion either due to potential climatic changes or the natural end of the life cycle for the facility?	
235		5.4.1		Precipitation and Flooding			
236		5.4.2		Extreme Winter Conditions			
237		5.4.3		Extreme Summer Conditions			
238		5.4.4		Lightning Strikes			
239		5.4.5		Accidental Fires			
240		5.4.6		Earthquakes			
241		5.4.7		Climate Change and other Weather Related Effects			
242	6			Residual Adverse Effects and Significance	Table 5	These issues from Table 4 that have "unknown residual effects due to outstanding data and information" have not been included in Table 5. Thus making the listing of potential significant residual effects incomplete. It is noted in the table that the impact of these issues may be determined as they become available. These issues need to also be noted in this table to represent a clearer picture of the what the potential significant effects may consist of.	
243	6			Residual Adverse Effects and Significance	Table 5	Incomplete as all elements of Table 4 not discussed here.	
244	7			Cumulative Effects		The discussion on cumulative effects is insufficient. If Third Falls is being assessed as part of the cumulative effects matrix, then why has the Third Falls facility not been considered as part of the EA process. What measures are being put in place to monitor for the potential manifestation of cumulative effects? How will the project be modified if cumulative effects materialize or are greater in impact/scope than previously anticipated?	
245	7			Cumulative Effects		In section 7.2 Xeneca claims that "if built, Third Falls GS would create a inundation area that would reach to the downstream side of the Chute." Xeneca has moved forward with public consultation on the Third Falls site in their PICs. It seems that these projects are linked and thus should be assessed as one project in one EA process unless it can be confirmed that the Third Falls development is not being pursued. MNR is highly concerned that the EA process for both developments is being piecemealed.	
246	7			Cumulative Effects		Under "Erosion and Sedimentation" - suggest the significance of the residuals "unable to be determined" given the lack of information presented in the ER	
247	7			Cumulative Effects		Under "Pioneered Area" - suggest significance of residual could be high unless evidence of no impact is presented. Modelling evidence to support that peaking activity will have no impact remains outstanding.	
248	7			Cumulative Effects		Under "Employment" - suggest that impacts of construction of the facility at a known site used by the tourism industry be assessed. This may push the residual effect to "negative"	
249	7			Cumulative Effects		The discussion on cumulative effects is insufficient. If Third Falls is being assessed as part of the cumulative effects matrix, then why has the Third Falls facility not been considered as part of the EA process. What measures are being put in place to monitor for the potential manifestation of cumulative effects? How will the project be modified if cumulative effects materialize or are greater in impact/scope than previously anticipated?	
250	7			Cumulative Effects		In section 7.2 Xeneca claims that "if built, Third Falls GS would create a inundation area that would reach to the downstream side of the Chute." Xeneca has moved forward with public consultation on the Third Falls site in their PICs. It seems that these projects are linked and thus should be assessed as one project in one EA process unless it can be confirmed that the Third Falls development is not being pursued. MNR is highly concerned that the EA process for both developments is being piecemealed.	
251	7			Cumulative Effects		Under "Erosion and Sedimentation" - suggest the significance of the residuals "unable to be determined" given the lack of information presented in the ER	
252	7			Cumulative Effects		Under "Pioneered Area" - suggest significance of residual could be high unless evidence of no impact is presented. Modelling evidence to support that peaking activity will have no impact remains outstanding.	
253	7			Cumulative Effects		Under "Employment" - suggest that impacts of construction of the facility at a known site used by the tourism industry be assessed. This may push the residual effect to "negative"	

Sequential Comment Number	Chapter	Section	Sub-Section	Title	Page/Line (if Applicable)	Section Comments	General Comments
254	8			Monitoring and Follow-up Programs		No specifics are provided which make it very difficult to assess adequacy of programs. Detailed information must be provided as part of the approvals/permitting process.	
255		8.1		Construction Monitoring		OMNR will require monitoring of aquatic and terrestrial community post-construction to ensure that impacts are mitigated. This must be described prior to any approvals/permitting.	
256		8.2		Post Construction/Operation Monitoring		Post construction monitoring should include monitoring of impacts to wetlands and associated habitat features as well as re-establishment of wetlands where required and as identified by District MNR. This monitoring should occur until wetland re-establishment has been deemed to occur or until failure is determined at which point remediation should be considered. Extent of wetland impact cannot be determined at this point due to incomplete data submission.	
257		8.2		Post Construction/Operation Monitoring		In Table 7: List of Potential Regulatory Approvals under Permit and Legislative Requirement - Provincial Public Lands Act (PLA) - Lease - Ministry of Natural Resources should be listed as this will be the form of tenure for the project area	
258	9			Regulatory Approvals and Permits		Separate LMA approval will be required for earthen embankment.	
259	9			Regulatory Approvals and Permits		Xeneca mentions that they are committed to ongoing reporting including a Project Implementation Report. Who will receive this? What measures will be taken if discrepancies with the ER are identified? Will this be available for public scrutiny?	
260	10			Commitments	Pg 118	Consultation section - The second bullet re: "continuing to engage with specific stakeholders on relevant issues" is very vague. It is not clear whether this includes Aboriginal Communities or not. This should be made specifically clear.	
261	10			Commitments	Pg 120	The ER states: <i>Aboriginal and First Nation engagement was undertaken with each community's leadership as part of the business to business Aboriginal consultation initiative by the proponent. A comprehensive engagement initiative with each community/located within or having traditionally used the project area has been underway since issue of the Notice of Commencement and will continue beyond Notice of Completion and into project implementation.</i> The list of Aboriginal communities given to Xeneca for consultation with respect to this project is larger than just the B2B communities. As well the B2B discussions themselves do not necessarily identify the concerns, interests and possible infringements that the communities must have the opportunity to identify. Again, this underlines that the consultation efforts undertaken during this Class EA are likely insufficient for MNR to issue approvals and permits.	
262	11			Conclusions			
263	12			References			
264				Appendix E		It does not appear that the record of Aboriginal Consultation and Engagement undertaken to date contains all of the documentation listed in the Contact and Consultation log summaries by community and Tribal Council. As well, it does not appear that each Aboriginal community was provided a Notice of Commencement. This would be in contravention of the Class EA process as required on page 33 of the Waterpower Class EA.	
265				Appendix E	In the listing of communities, Missinable Cree FN is listed. This should be Moose Cree FN.		

Ministry of Tourism and Culture

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September 12, 2011 **(by E-mail only)**

Vanesa Enskaitis
Public Affairs Liaison
Xeneca Power Development Inc.
5255 Yonge St., Suite 1200
North York, Ontario
M2N 6P4

Subject: Environmental Report, Class EA for Water Power Projects
Project: Ivanhoe River - The Chute, Hydroelectric Generating Station Project
Applicant: Xeneca Power Development Inc.
Location: Chapleau District

Dear Ms. Enskaitis,

Thank you for the opportunity to comment on the Environmental Report prepared as part of the environmental assessment process related to the above noted proposed project.

The Ministry of Tourism and Culture's (MTC) interest in this proposed project relates to our mandate of conserving, protecting and preserving Ontario's heritage including cultural heritage landscapes, built heritage resources and archaeological sites.

This office has reviewed the above-mentioned report, and has the following comments:

The information provided in the report related to identifying all known and potential cultural heritage resources and potential project impacts on those resources is inconsistent.

Section 2.10 Cultural Heritage focuses on summarizing the findings of the Stage 1 Archaeological Assessment that was prepared. Under subsection 2.10.2 it states that based on the results of the Stage 1 assessment the potential for the presence of built heritage structures within the project area is expected to be negligible and that this would be confirmed through the Stage 2. There is no summary within section 2.10 that addresses cultural heritage landscapes.

However, *Table 4: Identified Issues and Management Strategies* does address cultural heritage landscapes under the subsection related to potential issues affecting cultural heritage resources. It indicates that the Stage 1 archaeological assessment did not identify potential for cultural heritage landscapes within the project area and that the Stage 2 study will confirm this assessment. However, beneath this comment it also states that "The Chapleau Cree indicated a preference for the construction of a rock clay-fill dam instead of a concrete water control structure to minimize the effects on natural aesthetics of the area." Inclusion of this statement under "mitigation" implies that this area may be a potential cultural heritage landscape.

MTC would like to clarify that the purpose of a Stage 1 assessment is for the consultant archaeologist to determine whether there is potential for archaeological sites in the project area.

He or she reviews geographic, land use and historical information for the project area, visits the property to inspect its current condition and contacts this ministry to find out whether or not there are any known archaeological sites on or near the project area. A Stage 2 assessment is required when the consultant archaeologist identifies areas of archaeological potential.

Archaeological assessments do not address known or potential built heritage resources or cultural heritage landscapes therefore it is not sufficient to use only the findings of an archaeological assessment to support the conclusion that these types of cultural heritage resources are not present within the study area.

Furthermore, *Appendix B Potential Effects Matrix for Construction and Operation* indicates the potential level of effect on all cultural heritage resources (archaeological resources, built heritage resources and cultural heritage landscapes) is unknown and that appropriate mitigation measures will be proposed, as required, based on assessment findings.

Under Section 5 of the report *Evaluation of Potential Project Effects* it states “The purpose of an environmental assessment is to identify all the ecosystem components that make up the environment (biological, social and economic) within the project area, and evaluate how the project would affect these valued ecosystem components during its construction, operation and end of life cycles.” The current Environmental Report does not demonstrate that enough information has been gathered in order to identify all cultural heritage resources that may be located within the project area, and therefore evaluate potential project impacts, as is required by the Class EA process.

Section 9 Regulatory Approvals and Permits includes *Table 7: List of Potential Regulatory Approvals*. The Ministry of Tourism and Culture (MTC) is included an agency within this table. The Ministry licenses all archaeologists who carry out fieldwork in Ontario, and as a condition of their licence, archaeologists must document the results of the fieldwork they carry out in Ontario by filing archaeological reports with this ministry for review. MTC is not an approval authority. Ministry staff review each report prepared by licensed archaeologists, including archaeological assessment reports, to ensure that the licensed archaeologist has met the terms and conditions of his or her licence, including our requirements for fieldwork and reporting.

Additional comments:

Marine Archaeology

The archaeological fieldwork and reporting completed to date for this project addresses only land based impacts. Due to the nature of this project, as a best practice MTC recommends undertaking a marine archaeological assessment for those areas where there is a possibility of impacting potential marine archaeological sites.

The above are comments from the Ministry of Tourism and Culture on the report. We trust that this is of assistance; please let this office know if you have any questions.

Regards,

Paula Kulpa

Heritage Planner | Culture Services Unit
Ministry of Tourism and Culture

Cc: Chris Schiller, Manager, Culture Services Unit
Ministry of Tourism and Culture

Laurie Brownlee, Environmental Planner & EA Coordinator
Ministry of the Environment



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November 4, 2013

Amy Didrikson, MCIP, RPP
Heritage Planner | Culture Services Unit
Ministry of Tourism, Culture and Sport
Chapleau District

Dear Ms. Didrikson,

Thank you for your letter dated June 21, 2013 regarding Xeneca Power Development's Draft Environmental Report for the Ivanhoe River hydroelectric projects – The Chute GS and Third Falls GS.

Xeneca appreciates MTCS's input and comments on the Draft ER related to archaeological sites, marine archaeology, the cultural heritage resources, and other MTCS regulatory requirements.

Please see below your comments from the text of the June 21st letter and the responses follow immediately:

The Ministry of Tourism, Culture and Sport's ("MTCS") interest in this Proposed Project relates to our mandate of conserving, protecting and preserving Ontario's heritage including cultural heritage landscapes, built heritage resources and archaeological resources.

MTCS has reviewed the Draft ER, and has the following comments:

Further to our comments provided on September 12, 2011 we find that built heritage resources and cultural heritage landscapes have not been fully addressed in the Draft ER and a rationale has not been provided for why marine archaeology has not been addressed as part of the EA.

RESPONSE: In regards to the built heritage assessment and cultural heritage assessment, our licensed archeologist conducted a Stage 2 Archaeological Assessment and did not identify any built heritage structures or features within the project area. In his opinion, there were no cabins, evidence of historic logging activity, mining or other industrial activities, and bridges, engineering works, monuments, farmsteads, etc. in evidence that would warrant a built heritage assessment or cultural heritage assessment.



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A completed MTCS Built Heritage Resource and Cultural Heritage Landscape Checklist is attached for your information. This information does not seem to support the need for Cultural Heritage Resources or Marine Archeology assessments.

Section 2.10.1 Archaeological Sites and Assessments describes how the Stage 1 and 2 Archaeological Assessments conclude that “there is no archaeological or cultural heritage potential” within the proposed project areas. The term “cultural heritage resources” is understood to include built heritage resources, cultural heritage landscapes and archaeological resources. A Stage 1 and 2 Archaeological Assessment is intended to address archaeological resources only and not built heritage and cultural heritage landscapes. Therefore, this section of the Draft ER should be revised to speak to archaeological resources only, and not to “cultural heritage potential” as this terminology is misleading.

RESPONSE: The text in the draft ER will be revised and relabelled to address archaeological resources only.

Similarly, the following statements should be revised (recommended text is underlined):
Second paragraph of page 28, the Draft ER states that “a Stage 1 Archaeological Impact Assessment was completed for both the Chute and Third Falls proposed project areas ... to gain an understanding of the cultural heritage of the area. This should be revised to state that the Stage 1 AA was completed to gain an understanding of the archaeological potential of the area”;

The final paragraph of page 28 states that “As a result of the Stage 2 assessment, no cultural heritage resources were identified at the Third Falls project site”. This should be revised to state, “As a result of the Stage 2 assessment, no archaeological resources were identified at the Third Falls project site”.

RESPONSE: The text will be revised accordingly.

Section 2.10.2 Buildings and Structures describes how “Based on the results of the Stage 1 Archaeological Assessment, the potential for the presence of built heritage structures within the project areas is expected to be negligible”. As stated in our comment letter submitted to you on September 12, 2011, and as noted on the previous page, Archaeological Assessments are not required to address built heritage resources or cultural heritage landscapes. To assess the full suite of cultural heritage resources, the proponent must undertake the identification and assessment of built heritage resources and cultural heritage landscapes, with the assistance of a qualified professional if necessary, and must incorporate this assessment into the ER.

To assist with the identification and assessment of built heritage resources and cultural heritage landscapes, I am attaching MTCS’s screening checklist. This checklist can assist in identifying potential built heritage resources and cultural heritage landscape. As noted in our September 12, 2011 letter, the potential for a cultural heritage landscape has already been identified through



consultation with the Chapleau Cree. This suggests that further assessment is necessary. Such assessment could take the form of a heritage impact assessment.

RESPONSE: Thank you for providing a copy of the checklist. It has been completed and a copy is attached. The results show there are no existing cultural or built heritage features in the project area that require assessment.

The issue related to Chapleau Cree comment is not about cultural heritage landscape anywhere, but one related to a cultural preference to use more natural/environmental built forms, where ever possible. The sentence was not implied to suggest that any place has potential cultural heritage landscape value.

In Annex V, Archaeological Assessments, we note that the Chute and Third Falls sites include Crown Land. Please be aware that the Standards and Guidelines for Conservation of Provincial Heritage Properties (Standards & Guidelines), prepared pursuant to Section 25.2 of the Ontario Heritage Act, came into effect on July 1, 2010, and apply to properties of cultural heritage value or interest located on land owned or controlled by the province. All ministries and prescribed public bodies shall comply with the Standards & Guidelines.

RESPONSE: Thank you for this information.

Table 26: Identified Issues, Summary of Mitigation and Potential Residual Effects

This table includes the reoccurring error in assumption that the Archaeological Assessments completed to date have addressed the potential for built heritage resources and cultural heritage landscapes. This section under “Mitigation” needs to be modified to fully address built heritage resources and cultural heritage landscapes after seeking the advice of a qualified professional. Also, please revise the Environmental Component currently listed as “Buildings or Structures” to read “Built Heritage Resources” (which can include elements of the built environment such as engineering works, monuments, farmsteads, bridges, etc.).

RESPONSE: This comment is acknowledged.

Table 27: Residual Environmental Effects and Significance

We note that Built Heritage Resources and Cultural Heritage Landscapes are not included in this Table. This table will need to be updated following the identification and assessment of built heritage resources and cultural heritage landscapes, as recommended above.

RESPONSE: The need for such assessments is not clear. Our archeologist has not identified any features that may require these assessments. Our dam will be built from standard concrete and not natural materials. This is now required under the new Dam safety Guidelines and we can no longer entertain the possibility of using natural materials to build the dam.



Section 15 Conclusions

We note the reoccurring error noted above in this section, where it is stated that “the Stage 1 and 2 Archaeological Assessments of the project determined that there were not cultural resources which would be impacted by the project”. This section should be revised to more clearly describe how there were no known archaeological sites documented in the Archaeological Assessments to date, but that upcoming Archaeological Assessments will examine the proposed access roads for the project. Furthermore, as described above, Archaeological Assessments are not intended to address built heritage resources or cultural heritage landscapes and cannot be relied upon in the assessment of impacts to these cultural heritage resources.

RESPONSE: The text will be revised accordingly. Access roads and laydown areas study will be included in the final ER.

Additional Comments:

Marine Archaeology

We note that a marine Archaeological Assessment was not undertaken as recommended in our comments dated September 12, 2011. Please provide a rationale for why this assessment was not undertaken or retain a consultant to address this component of the environment.

RESPONSE: There was no evidence to support the need for a marine assessment. The complete absence of any built heritage features within the river does not support the need to do a heritage assessment. There are no buildings associated with the river. There are no features that would suggest marine archaeological/cultural resources (e.g., evidence for historic logging activity, mining activity etc). Further, the falls are too dangerous to attempt running by canoe. Apart from a modern campsite and boat launch area, there is nothing to reasonably suggest that marine archaeological/cultural resources could be expected.

Concluding Remarks:

The above are comments from MTCS on the Draft ER. We trust that this is of assistance; please let this office know if you have any questions.

RESPONSE: We sincerely appreciate your comments and are working to assess possible changes or updates to be included in our final ER.

If any questions arise while doing so, Xeneca would appreciate the opportunity to contact your office for assistance.



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Kind Regards,

Edmond Laratta
Environment Department, Manager
Xeneca Power Development Inc.



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Appendix I

Clarification letter from WHSL on assessment of built heritage resources and cultural heritage landscapes

From: [Grace Yu](#)
To: [Grace Yu](#)
Subject: FW: Cultural Heritage Screening Conference Call discussion
Date: Monday, November 04, 2013 5:12:38 PM

From: luke@woodlandheritage.com [<mailto:luke@woodlandheritage.com>]
Sent: August-27-13 4:06 PM
To: Ciara DeJong
Subject: Re: Cultural Heritage Screening Conference Call discussion

Dear Ciara,

With respect to the Cultural Heritage screening checklist, here is my paragraph of explanation.

Regards

Luke

In filling out the MTCS Cultural Heritage Checklist, it was determined that a cultural heritage investigation was needed due to the existence of a waterfall within the project area.

A Stage 1 and Stage 2 archaeological assessment has been conducted for the project area in accordance with MTCS Standards and Guidelines for Consulting Archaeologists. The two reports have been submitted to MTCS for review and they have both been accepted by MTCS.

As a result of the archaeological assessment, it was determined that there is no cultural heritage significance to these waterfalls. They do not have any historic association with significant people or events. They do not figure into the local history in any significant way. In short, they are no different than the thousands of other waterfalls that exist in the Canadian Shield.

The Stage 1 and 2 archaeological assessment conducted by Woodland Heritage Services Limited satisfies the requirement for a higher level of investigation. No archaeological resources were identified in the reports and there was no indication of any additional cultural heritage concerns that would require additional study.



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Appendix II

Attachment - MTCS Built Heritage Resource and Cultural Heritage Landscape Checklist August 2013

Screening for Impacts to Built Heritage and Cultural Heritage Landscapes

This checklist is intended to help proponents determine whether their project could affect known or potential cultural heritage resources. The completed checklist should be returned to the appropriate Heritage Planner or Heritage Advisor at the Ministry of Tourism and Culture.

Step 1 – Screening for Recognized Cultural Heritage Value

YES	NO	Unknown	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Is the subject property designated or adjacent* to a property designated under the <i>Ontario Heritage Act</i> ?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Is the subject property listed on the municipal heritage register or a provincial register/list? (e.g. Ontario Heritage Bridge List)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Is the subject property within or adjacent to a Heritage Conservation District?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Does the subject property have an Ontario Heritage Trust easement or is it adjacent to such a property?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. Is there a provincial or federal plaque on or near the subject property?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6. Is the subject property a National Historic Site?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. Is the subject property recognized or valued by an Aboriginal community?

Step 2 – Screening Potential Resources

YES	NO	Unknown	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Built heritage resources 1. Does the subject property or an adjacent property contain any buildings or structures over forty years old[†] that are: <ul style="list-style-type: none"> ▪ Residential structures (e.g. house, apartment building, shanty or trap line shelter) ▪ Farm buildings (e.g. barns, outbuildings, silos, windmills) ▪ Industrial, commercial or institutional buildings (e.g. a factory, school, etc.) ▪ Engineering works (e.g. bridges, water or communications towers, roads, water/sewer systems, dams, earthworks, etc.) ▪ Monuments or Landmark Features (e.g. cairns, statues, obelisks, fountains, reflecting pools, retaining walls, boundary or claim markers, etc.) 2. Is the subject property or an adjacent property associated with a known architect or builder? 3. Is the subject property or an adjacent property associated with a person or event of historic interest? 4. When the municipal heritage planner was contacted regarding potential cultural heritage value of the subject property, did they express interest or concern?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cultural heritage landscapes 5. Does the subject property contain landscape features such as: <ul style="list-style-type: none"> ▪ Burial sites and/or cemeteries ▪ Parks or gardens ▪ Quarries, mining, industrial or farming operations ▪ Canals ▪ Prominent natural features that could have special value to people (such as waterfalls, rocky outcrops, large specimen trees, caves, etc.) ▪ Evidence of other human-made alterations to the natural landscape (such as trails, boundary or way-finding markers, mounds, earthworks, cultivation, non-native species, etc.) 6. Is the subject property within a Canadian Heritage River watershed? 7. Is the subject property near the Rideau Canal Corridor UNESCO World Heritage Site? 8. Is there any evidence from documentary sources (e.g., local histories, a local recognition program, research studies, previous heritage impact assessment reports, etc.) or local knowledge or Aboriginal oral history, associating the subject property/ area with historic events, activities or persons?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Note:

If the answer is "yes" to any question in Step 1, proceed to Step 3.

The following resources can assist in answering questions in Step 1:

Municipal Clerk or Planning Department – Information on properties designated under the Ontario Heritage Act (individual properties or Heritage Conservation Districts) and properties listed on a Municipal Heritage register.

Ontario Heritage Trust – Contact the OHT directly regarding easement properties. A list of OHT plaques can be found on the website: [Ontario Heritage Trust](#)

Parks Canada – A list of National Historic Sites can be found on the website: [Parks Canada](#)

Ministry of Tourism and Culture – The Ontario Heritage Properties Database includes close to 8000 identified heritage properties. Note while this database is a valuable resource, it has not been updated since 2005, and therefore is not comprehensive or exhaustive. [Ontario Heritage Properties Database](#)

Local or Provincial archives

Local heritage organizations, such as the municipal heritage committee, historical society, local branch of the Architectural Conservancy of Ontario, etc.

Consideration should also be given to obtaining oral evidence of CHRs. For example, in many Aboriginal communities, an important means of maintaining knowledge of cultural heritage resources is through oral tradition.

If the answer is "yes" to any question in Step 2, an evaluation of cultural heritage value is required. If cultural heritage resources are identified, proceed to Step 3.

If the answer to any question in Step 1 or to questions 2-4, 6-8 in Step 2, is "unknown", further research is required.

If the answer is "yes" to any of the questions in Step 3, a heritage impact assessment is required.

If uncertainty exists at any point, the services of a qualified person should be retained to assist in completing this checklist. All cultural heritage evaluation reports and heritage impact assessment reports must be prepared by a qualified person. Qualified persons means individuals (professional engineers, architects, archaeologists, etc.) having relevant, recent experience in the identification and conservation of cultural heritage resources. Appropriate evaluation involves gathering and recording information about the property sufficient to understand and substantiate its heritage value; determining cultural heritage value or interest based on the advice of qualified persons and with appropriate community input. If the property meets the criteria in Ontario Regulation 9/06 under the Ontario Heritage Act, it is a cultural heritage resource.

† The 40 year old threshold is an indicator of potential when conducting a preliminary survey for identification of cultural heritage resources. While the presence of a built feature that is 40 or more years old does not automatically signify cultural heritage value, it does make it more likely that the property could have cultural heritage value or interest. Similarly, if all the built features on a property are less than 40 years old, this does not automatically mean the property has no cultural heritage value. Note that age is not a criterion for designation under the *Ontario Heritage Act*.

Step 3 – Screening for Potential Impacts		
YES	NO	Will the proposed undertaking/project involve or result in any of the following potential impacts to the subject property or an adjacent* property?
<input type="checkbox"/>	<input type="checkbox"/>	Destruction, removal or relocation of any, or part of any, heritage attribute or feature.
<input type="checkbox"/>	<input type="checkbox"/>	Alteration (which means a change in any manner and includes restoration, renovation, repair or disturbance).
<input type="checkbox"/>	<input type="checkbox"/>	Shadows created that alter the appearance of a heritage attribute or change the exposure or visibility of a natural feature or plantings, such as a garden.
<input type="checkbox"/>	<input type="checkbox"/>	Isolation of a heritage attribute from its surrounding environment, context or a significant relationship.
<input type="checkbox"/>	<input type="checkbox"/>	Direct or indirect obstruction of significant views or vistas from, within, or to a built or natural heritage feature.
<input type="checkbox"/>	<input type="checkbox"/>	A change in land use such as rezoning a battlefield from open space to residential use, allowing new development or site alteration to fill in the formerly open spaces.
<input type="checkbox"/>	<input type="checkbox"/>	Soil disturbance such as a change in grade, or an alteration of the drainage pattern, or excavation, etc.

* For the purposes of evaluating potential impacts of development and site alteration "adjacent" means: contiguous properties as well as properties that are separated from a heritage property by narrow strip of land used as a public or private road, highway, street, lane, trail, right-of way, walkway, green space, park, and/or easement or as otherwise defined in the municipal official plan.



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September 29, 2011

Ministry of the Environment
Environmental Assessment and Approvals Branch
Floor 12A
2 St. Clair Avenue W.
Toronto ON M4V 1L5

Attention: Mr. Michael Harrison

Dear Mr. Michael Harrison,

Re: **Ontario Waterpower Class Environmental Assessment ("OWA Class EA")**
Xeneca Power LP/ Xeneca Power Development Inc. ("Xeneca")
The Chutes (Ivanhoe River)

I am writing in respect of The Chutes Generating Station OWA Class EA.

On July 14, 2011 Xeneca published its Notice of Completion in respect of the proposed The Chutes Generating Station on the Ivanhoe River. Xeneca provided a 60 day review period which ended on Monday, September 12, 2011.

I am writing to provide a list of the Part II order requests and letters of comment received by Xeneca. Xeneca is in the process of reviewing the correspondence, determining the appropriate response and contacting each of the agencies and individuals. I would ask that the Ministry of the Environment confirm that the following list is complete from a review of its records.

Agency/Organization/Individual	Comment/Part II Request	Date Received
Ministry of Natural Resources	Comment	September 9, 2011
Department of Fisheries and Oceans Canada	Comment	September 12, 2011 (dated August 31, 2011)
Transport Canada	Comment	September 12, 2011
Environment Canada	Comment	September 12, 2011
Ontario River Alliance	Part II Request	September 9, 2011
Hugh Currie	Part II Request	September 12, 2011
Tony Godin	Part II Request	August 9, 2011
Jeff Mole	Part II Request	September 1, 2011
Laurent Robichaud	Part II Request	September 11, 2011
William Allen	Part II Request	September 9, 2011



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A preliminary review indicates that certain of the requests include issues of a technical nature for which our environmental consultants are engaged to assist in responding. However, some of the Part II order requests are either not appropriate for a Part II Order or are not compliant with the requirements of the OWA Class EA for an elevation request. Xeneca will address those issues later.

I would suggest that it would be beneficial to have a meeting of Xeneca and the Ministry of the Environment to discuss the comments, requests and next steps. I would suggest a meeting time in October 2011. In the meantime, Xeneca will be communicating with the various agencies and individuals to resolve the outstanding concerns raised.

Please contact me if you have any questions or would like to discuss this further.

Yours truly,

A handwritten signature in blue ink, appearing to read "Patrick W. Gillette".

Patrick W. Gillette

cc: S. Stoll, Aird & Berlis LLP

cc: Cindy Batista, (Ministry of Environment)

Ministry of the Environment

435 James Street South
Suite 331
Thunder Bay ON P7E 6S7
Tel.: 807 475-1690
Fax: 807 475-1754

Ministère de l'Environnement

435, rue James sud
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Télééc. : 807 475-1754



October 6, 2011

Vanesa Enskaitis
Public Affairs Liaison
Xeneca Power Development Inc.
5255 Yonge Street, Suite 1200
Toronto, ON M2N 6P4

**Re: Notice of Completion and Environmental Report for
The Chute Hydroelectric Generating Station Project
Ivanhoe River**

Dear Ms. Enskaitis:

Thank you for providing the Ministry of the Environment (MOE) Northern Regional Office with the Notice of Completion (NoC) and Environmental Report (ER) for Xeneca Power Development Inc.'s (Xeneca) proposed The Chute Hydroelectric Generating Station on the Ivanhoe River (Project). The ER proposes a 3.6 megawatt (MW) waterpower facility at the site known as "The Chute" approximately 85 kilometres (km) west of Timmins and 15 km north of Highway 101. The Project is being proposed as a run of river with modified peaking on a managed waterway under the requirements of the Ontario Waterpower Association's Class Environmental Assessment for Waterpower Projects (March 2011) (Class EA).

Key components of the proposed new facility include:

- 85 metre (m) spillway dam and a 110 m long earthen embankment;
- Intake and powerhouse with a total nameplate rating of 3.6 MW;
- 27.6 kilovolts connection line to the provincial electrical power supply grid;
- Existing access road upgrades and a short section of new road construction (<1 km);
- Temporary access roads to reach non-powerhouse side of the river (to be decommissioned following construction);
- Upgrades to an existing bridge upstream;
- Inundation and backwater effects are expected to span a distance of 6.4 km upstream and 400 m downstream;
- A downstream minimum environmental flow of 2.3 to 2.6 centimetres is proposed.

The MOE Northern Region has reviewed the ER and supporting documents and provides the following comments. We have included general topic areas first and then specific comments on the ER and its annexes and appendices.

.../2

General Topic Areas

CLASS EA PROCESS

There are a number of environmental assessment principles which are key to successful planning under the *Environmental Assessment Act* (EAA) for waterpower projects, which include: 1) consulting with potentially affected and other interested persons; 2) considering all aspects of the environment; 3) systematically evaluating net environmental effects; and, 4) providing clear, complete documentation.

The following outlines each of these key principles and provides MOE Northern Region's commentary.

1) Consulting with potentially affected and other interested persons:

Consultation with interested persons is a cornerstone of the environmental assessment process and is a legal requirement of the EAA. One of the benefits of an approved Class EA is that it provides certainty for both proponents, affected stakeholders, and the public with respect to the consultation process and how to participate in the process. In order to meet the requirements of the EAA, a proponent must successfully follow the planning process in the approved class environmental assessment.

The Class EA suggests, in sections 4.1, 4.1.3, 4.2.3 and 6.0, that a public consultation plan be prepared in the early stages of the project in order to inform a meaningful consultation program. The Public Consultation Plan submitted is dated June 16, 2011 which is less than a month prior to the Notice of Completion being issued. The MOE received a draft dated May 17, 2011 of this document on May 19, 2011 (with a note that the draft was prepared on January 13, 2010). Since the plan was not finalized early in the process, Xeneca may not have benefited from the input of the public, agencies and Aboriginal communities as envisaged in the Class EA and the interested parties may have been incorrectly identified.

Section 4.1.3 of the Class EA states: "Early and meaningful engagement of representative interests and publics that may be affected by the project is prudent business practice and a critical element of achieving the intent of the Class EA." Although Xeneca has met the minimum mandatory contact requirements in the Class EA, there are outstanding concerns with the Project and therefore it should have been subject to additional consultation opportunities.

The Public Information Centres (PICs) were held in January and July 2011, using the information and design concepts from the 2010 field data. Additional opportunities for public, agency and Aboriginal input should be provided when the 2011 field data, and any resulting changes to the Project effects, are available.

The Agency Coordination Meeting was held on April 19, 2011. Additional agency technical meetings were held on February 11, 2011, April 28 and 29, 2011 as well as June 15, 2011. We note that MOE was not informed about an agency meeting to discuss fish habitat issues on February 11, 2011 and was not given enough notice to attend the June 15, 2011 meeting. The timing of these meetings would not have provided enough time for Xeneca to react to the recommendations given at these meetings for technical and process matters and for data collection requirements.

We have concerns with the approach used by Xeneca to provide commitments in the ER rather than completing the EA process as outlined in the Class EA. We have further concerns since the NoC period offers interested persons and parties an opportunity to submit a Part II Order request (PIIO request), something which will not be available to them if consultation occurs outside of this time period.

Despite the presentation of the consultation efforts for this Project in Sections 1.4.5 and 4, and Appendices C through E, there is not sufficient detailed information included in the ER to determine that consultation with the public, agencies and Aboriginal communities is complete.

Sections 4.4.1 and 6.3 of the Class EA requires that the Project documentation detail include: who was concerned; what the concerns were; how those concerns were considered and addressed; and, what the outstanding issues are. This will also be a requirement under section 4.5.1 at the Statement of Completion stage.

Aboriginal Consultation:

Section 7.1 of the Class EA states: “Proponents are expected to involve Aboriginal communities who may be directly affected by, or have an interest in, the development of a waterpower project and to develop an engagement approach specific to these interests” and “Aboriginal engagement and involvement is intended to allow the proponent to identify and consider the concerns and issues of Aboriginal communities and to provide those communities with an opportunity to receive information about and have meaningful input to the project proposal”.

The intent of consultation plans is to produce them early in the process to set out the consultation that needs to take place. This is detailed in sections 4.1.3, 4.2.3 and 7.1 of the Class EA. The Ivanhoe Aboriginal Consultation Plan (ACP) is dated May 2011, only two months before the final ER was issued with NoC.

We note that the ACP was circulated to ten Aboriginal groups on August 10, 2011 - after the NoC was issued on July 14, 2011. We also note, that at least one Aboriginal group has stated that they will not review the ACP until they have a signed agreement with Xeneca. This appears to indicate that consultation is in its beginning stages and not complete.

Because of the limited Project documentation of the consultation that was undertaken with Aboriginal groups, the MOE NR is not able to properly assess whether sufficient consultation has been completed for the Class EA, nor able to determine the necessity of undertaking consultation for any subsequent MOE approvals (i.e., certificates of approval and permits to take water).

2) Considering all aspects of the environment:

ER supporting documents must contain enough information to demonstrate the potential impacts of the Project and identify mitigation measures, to a level that allows the public, Aboriginal communities and agencies to understand the anticipated impacts.

Section 4.2.2 of the Class EA states: “The evaluation, like the entire Class EA process, is proponent-led and will help inform the proponent’s approach to obtaining input and information specific to planning and assessing the project. However, it is recommended that the proponent consult with relevant federal and provincial agencies and municipal authorities, appropriately qualified persons, potentially affected and interested individuals and the public when completing the potential effects identification matrix. The results of the environmental, social, cultural and economic evaluation are to be used by the proponent to inform the subsequent consultation, data collection and assessment phases of the Class EA process.”

This approach ensures that stakeholders are engaged in a meaningful way that ensures that the proponent takes into account the potential impacts and benefits of the projects and which in turn informs interested parties about the effects of the project on their interests.

There are statements in the ER that refer to future field work and consultation which is to take place. All of the data collection and assessment should have been completed and documented in the ER when the NoC was issued. This would ensure that there is sufficient information available to demonstrate the potential impacts of the Project and identify mitigation measures, to a level that allows the public, Aboriginal communities and agencies to understand the anticipated impacts.

There are several areas on the Effects Matrix in Appendix B where there are outstanding unknown effects and where there is no section in the text that addresses these items. For example, the item for “Land subject to natural or human-made hazards” is marked as unknown but there was no study submitted dealing with this issue although the Project is located in a clay belt which may make it more susceptible to the effects of erosion. A geotechnical report should have been conducted and submitted as supporting material to the ER. Similarly, all areas where there were data gaps should have been researched, studied, evaluated and reported in the ER.

Examples of outstanding potential effects where studies have been started but are not yet complete:

Thermal regime – p. 15 of the ER states “Currently, there is limited information available about the existing thermal regime. The creation of an upstream head pond has the potential to affect the existing thermal regime.” There is also conflicting information included in the Table of Potential Effects in Appendix B. This is a potential effect that should have been studied to confirm/refute an effect, and if appropriate, assessed and mitigation measures developed prior to the ER being finalized.

Water Quality – baseline data collection of methyl mercury will help to inform the mitigation measures to protect water quality and socio-economic effects and to assist interested parties to decide if there are significant effects to them as a result of the proposed Project.

General Field Studies – the area of inundation has increased from 2.8 km to 6.4 km since the original field studies were conducted, and the studies being conducted (in 2011) in the area between these two areas is not reflected in the ER. It is likely that new effects will be discovered in this expanded area of inundation and therefore, the requirement to document effects, and possible mitigation measures is not yet complete.

Archaeological Study – the Stage 1 study recommended a Stage 2 study be conducted due to the high potential of the dam site and surrounding areas to have archaeological value. The Stage 2 study to identify the effects was not completed prior to the ER being issued.

The level of detail presented in Class EA Project documentation should be sufficient to fulfil the requirements of the approved Class EA and to assure interested parties that the proposed undertaking is technically feasible and achieves environmental protection. Without having completed all studies, proper consultation cannot take place, the impacts to the environment cannot be known and/or confirmed, mitigation cannot be proposed and net effects cannot be described.

3) Systematically evaluating net environmental effects:

Section 4.3.1 of the Class EA outlines an approach to assessing effects. Since the zone of influence is still uncertain (see comments below under TECHNICAL ISSUES) and all data has not yet been collected, the identification of all effects cannot be complete and therefore any evaluation of net environmental effects is premature. From the documentation presented, all effects have not been identified, assessed and consulted upon.

4) Providing clear, complete documentation:

Section 4.4.1 of the Class EA provides a list of required elements to be included in the ER document. Attached for your convenience is Table 1 which outlines those required elements and MOE NR’s evaluation of the assessment completed and the documentation submitted.

TECHNICAL ISSUES

Consideration of Options

There are currently two options in the ER with no clear preference presented. The ER states that effects will essentially be the same for each option however this may not be the case for matters such as spawning beds and archaeological values. The ER should clearly identify the values found and how the values are impacted by each option using completed field studies.

Zone of Influence:

Identifying the Zone of Influence (ZOI) is essential to ensuring that all potential effects are identified and considered during the Class EA process. The ZOI should include all areas where effects could occur, including the entire inundation area and areas downstream.

The field work to date that is included in the submitted ER includes the former inundation area of 2.8 km upstream of The Chutes. The inundation area is now proposed to be 6.4 km and is currently being studied but the ER does not include this information. It is likely that there are significant effects that will be discovered in the 2011 field studies that are not included in the ER. There is also a possibility that the additional hydrological work recommended below will result in the ZOI extending beyond the 6.4 km and that area will also need to be studied. The downstream ZOI also extends beyond the 400 m presented in the ER.

Hydrology and Hydraulics:

HEC-RAS Hydraulic Modelling

Hydraulic modeling was used to determine area of inundation upstream of the dam and to determine downstream effects on flow and water level due to peaking operation of the proposed generating station. The hydraulic modeling is critical because the determination of the extent of effects is dependant on the modeling results. A number of uncertainties were noted in the modeling works, which are listed below:

- (i) Hydraulic modeling was done for an approximately 6.8 km long river reach coinciding with the LIDAR survey boundary, of which 6.4 km were upstream of the dam and the remaining 400 m were downstream of the dam. Out of this 6.8 km reach, only one kilometre of reach was surveyed for river transects. A total of eight surveyed transects were used, of which four transects were upstream of the dam over a distance of 590 m and the remaining four transects were downstream of the dam over a distance of approximately 400 m.
- (ii) Almost 85% of the modeling reach did not have any surveyed transects. Assumed transects were used for this un-surveyed reach using LIDAR survey and bathymetry data.

- (iii) Most critical hydraulic controls such as rapids and riffles were not surveyed; these have significant impacts on backwater water surface elevations.
- (iv) The model was calibrated and validated for only a one kilometre long reach instead of for the entire length. As a result there is uncertainty about the credibility of the modeling results beyond 590 m upstream and 400 m downstream of the proposed dam.
- (v) Calibration and validation results were not satisfactory. A large discrepancy between observed and modeled results was noted. For example, during calibration, the model produced a water surface elevation 27 cm (11 inch) higher than the observed elevation at a distance 590 m upstream of The Chute, and during validation the model behaved the opposite way, producing a 23 cm (9 inch) lower elevation than the observed elevation at the same location. In other words, the differences between observed and predicted values were high and inconsistent, overestimated during calibration and underestimated during validation.
- (vi) Only one measured flow and corresponding surveyed water surface elevation was used during calibration and during validation prorated flow from the Water Survey of Canada (WSC) station at Foleyet was used. Flow was prorated using drainage area ratio, which has uncertainty, as our own flow measurement near the project site indicates flows between the WSC station and the project site are not linearly related.
- (vii) For steady flow modeling, both the upstream and downstream reaches were modeled concurrently, ignoring the reality of the unsteady flow of the downstream reach due to a peaking operation of the proposed generating station. It would be more practical if the upstream reach were modeled independently for steady flow and the downstream reach were modeled separately for unsteady flow. In addition, the bypass reach, the reach of the river from the base of the dam to the tailrace should be modeled independently with the proposed minimum bypass flow to demonstrate ecological significance of the proposed minimum flow.
- (viii) Modeling of the downstream reach could be quite different if the effects of the proposed Third Falls Generating Station were considered.
- (ix) The HEC-RAS modeling report (section 4.4, page 9 of Annex 1-D) indicates the dam was modeled as an inline ogee spillway structure whereas, the electronic modeling file shows the structure was modeled as lateral broad crested weir. The modelling should accurately reflect the project details.
- (x) The crest elevation of the dam was considered to be 297 m which was 1 m below the normal operating headwater level of 298 m. This has enormous potential of underestimating the water surface elevation of the backwater profile.

- (xi) The Oats Road Bridge was not considered in the model, which has the potential of producing a backwater effect.
- (xii) Current modeling results indicate that inundation will go further upstream than 6.4 km, which the model can not compute because of the absence of survey data beyond 6.4 km.

Because of these uncertainties, it is recommended that remodelling be completed. MOE NR staff are available to meet with you and discuss specifics that should be considered when remodelling.

Minimum Flow

The following compensatory and minimum environmental flows were proposed by Xeneca:

Description	Spring	Summer	Fall	Winter
Downstream environmental flow target	Not intermittent operation	2.6	2.3	2.3
Compensatory flow between tailrace and dam	1.0+spillway	0.5	0.5	0.5

Note: all numerical values are in cubic metres per second; Where spring is defined from April 16th to June 1st (46 days), Summer is defined from June 2nd to Sep 1st (92 days), Fall is defined from Sep 2nd to Nov 1st (61 days) and Winter from Nov 2nd to April 15th (166 days).

In order to preserve the ecological viability of the Clay Belt Conservation Reserve, monthly Q80 flows at the boundary into the Conservation Reserve will be maintained at all times, provided that the natural inflow at The Chute is at least Q80.

Statistically, the proposed compensation and environmental flow seem quite low, close to Q99 (flow exceeding 99% of the time). The ecological rationale of the proposed minimum flow needs to be provided in the ER. Attributes of the proposed flows in terms of depth, velocity and wetted perimeter and explanations of their implications for the protection of the natural functions of the river reach also need to be included in the ER.

Water Quality, Benthic Invertebrates, Mercury:

The water quality and fish tissue contaminant monitoring done to date and proposed will be inadequate to assess impacts from Project, as described below.

Annex IV of the ER contained a letter report prepared by WESA Inc. for Xeneca entitled “Surface Water Quality Monitoring Program Ivanhoe (The Chute), Ontario” dated February 24, 2011. The water quality monitoring conducted in 2010 was limited, consisting of two sampling events at one location upstream and one location downstream of the proposed dam. Shortcomings in the sampling and reporting are as follows.

- Missing is an upstream reference location that would not be affected by inundation.
- The number of sampling events was insufficient to characterize temporal variability
- Individual samples had very high zinc concentrations suggesting potential sample collection or lab analytical problem.
- Dissolved oxygen measurements did not include near-surface and near-sediment and time of day was not recorded.
- Missing water quality parameters include low-level mercury and dissolved organic carbon.
- Details of water sample collection method were not provided.
- A map showing all sampling locations and the boundaries of the proposed inundations was not provided.

The shortcomings noted above for the 2010 sampling program should be addressed as part of a more complete baseline characterization in 2011. The baseline and post-development monitoring program (e.g. sampling locations, frequency, parameters) should be developed with input from our NR’s Water Resources Unit.

It follows that the potential effects identification, in addition to those listed in the report, should include: (a) fish consumption advisories for anglers due to elevated mercury in fish tissue; and (b) dissolved oxygen in the head pond.

The list of Identified Issues and Management Strategies in Table 4 of the ER has the following shortcomings.

- General Construction Activities Along Shoreline of Waterway. Turbidity of water close to construction site will be monitored. Details of how, where and when turbidity monitoring will occur during construction should be included in the ER.
- Intermittent Operation of Facility - Increase in Suspended Sediment. It is noted that maximum suspended sediment concentration should not decrease the Secchi disc reading by more than 10%. Specifics of turbidity monitoring locations, frequency and method during facility operation should be included in the ER.
- Inundation Resulting in Elevated Levels of Methyl Mercury in Water. Mitigation proposed is removal of terrestrial vegetation and woody debris. Soil should be included as an additional source of mercury. The 2011 Field Plan in Annex III, Appendix V contains some sampling of fish tissue within the currently identified ZOI, but that does

not constitute adequate baseline monitoring. Enhanced mercury methylation and elevated mercury levels in fish tissue are associated with new reservoirs and it will be important to collect data to support public fish consumption advisories. A detailed surface water and fish monitoring plan should be developed.

- Creation of the head pond will increase water surface area and may reduce flushing, potentially affecting dissolved oxygen levels in the head pond. The location of the head pond relative to the mixing zone for nutrients from the Foleyet Waste Water Treatment Plan should be determined. Reduced Dissolved Oxygen Concentrations in the Head Pond should be included in Table 4 as an effect.
- Soil and Sediment Quality -Management of Excavated Materials (e.g. blast rock). Details should be provided of how Acid Rock Drainage (ARD) will be assessed.

Economic/Socio-economic Effects:

There was no financial data or analysis submitted to evaluate the economic impacts to tourism. While a qualitative usage survey (not yet complete) will be used, a quantitative financial analysis in order to evaluate the effects of the Project on the local economy should be presented.

Elevated levels of methyl mercury in fish tissue is also a socio-economic impact since it may impact on recommended consumption levels and should be addressed in the ER.

Cumulative Impacts:

In different places in the ER, there are references to Third Falls, another Xeneca project downstream. There are suggestions that the project may not proceed and that if it does proceed, cumulative impacts would be addressed at that time. There are anticipated implications of Third Falls proceeding on effects evaluated and described in The Chute project ER and therefore the two projects should have been modelled together in order to inform The Chute Class EA.

Archaeological Effects:

The results of the Stage II study should have been available to the project team to assess the effects, and to the public, agencies and Aboriginal groups to determine if there were impacts to their interests.

Waste:

MOE NR had previously indicated to Xeneca that the existing landfill did not have capacity to accept the waste from this Project. No alternative site was identified in the ER submitted and this should have been included in the ER documents.

Permitting for the Project:

When planning the permitting for the Project, Xeneca should be made aware that MOE will only consider a short-term Permit to Take Water (PTTW) for the operation of the facility until the amendment to the Mattagami River Water Management Plan (WMP) has been approved. We note that it does not appear that Xeneca has taken the opportunity to coordinate the Class EA process and the Water Management Planning process.

Conclusions:

Proponents are responsible for ensuring that their projects meets any applicable policies, procedures or guidance material and to ensure that proponents adhere to all applicable federal and provincial legislation including obligations under the Class EA.

The ER submitted for Project on July 14, 2011 does not effectively report on meeting these key principles of the Class EA process: consultation with potentially affected and other interested persons; consideration of all aspects of the environment; systematic evaluation of net environmental effects; and, provision of clear, and complete documentation.

MOE NR staff are available to meet with you do discuss these outstanding concerns.

This concludes our comments at this time. If you have any further questions or need clarification regarding the above issues, please contact Paula Allen by email at [paula.allen@ontario.ca](mailto:Paula.Allen@ontario.ca) or by phone at 705-564-3273.

Sincerely,



John Taylor
Director, Northern Region

Enclosure

- c EA 16 00 The Chutes Hydroelectric Generating Station
- Cindy Batista, EAAB, MOE
- Paula Allen, APEP Supervisor, Northern Region, MOE
- Sandra Dossier, Renewable Energy Coordinator, MNR Northeast Region
- Tim Mutter, District Planner, MNR Chapleau District

Table 1 – Mandatory Requirements for the Environmental Report

Class EA Requirements	Section Requirements	The Chute Reference
<p>4.4.1 Environmental Report</p>	<p>In accordance with Section 4.4.1 of the Waterpower Class EA, the ER must contain:</p>	<p>The Executive Summary and Section 3 provide a description of the proposed undertaking and includes information on:</p> <ul style="list-style-type: none"> ○ Design options and rationale ○ Generating station components, ○ Ancillary works ○ Construction strategy ○ Operation strategy <p>Section 1.2 – provides a brief statement on the purpose of the undertaking “construction of the 3.6MW hydroelectric generating station... to meet government and energy regulatory goals and objective to generate sustainable and reliable hydroelectric power.” No further description of the purpose of the undertaking is provided in the ER.</p> <p>Page 2 – Figure 1 provides a map of the project location but with very few reference points (Highway, Townsite). The study area is not shown on this map. The study area should correspond with the identified zone of influence.</p> <p>Page 7 explains that literature reviews, field investigations and aerial photography were utilized</p> <p>Section 2 provides a description of the existing environment within the study area, defined as the 2.8 ha inundation area (now proposed to be 6.4 ha). Considered a broad definition of the environment including natural, socio-economic, and cultural environment.</p> <p>Page 1 of the Forward states that as a “proactive position”, environmental studies/field investigations are planned for 2011. In order to meet the requirements of the Class EA, studies should be undertaken for the entire study area in order for interested parties to review the work that has been completed in order to provide comments on the probable effects and proposed mitigation.</p>
<p>A completed potential effects identification matrix</p>	<p>Contained in Tables 4 and 5 of the ER</p> <p>This table is not complete there are a great deal of unknowns presented in this table indicating that further studies will be completed at a later time to assess effects and propose mitigation. There are several examples in the table that show it is incomplete and data deficient including:</p> <ul style="list-style-type: none"> • Lands subject to natural or human made hazards – Unknown – Field investigation will be conducted to assess presence/absence of natural hazards • Significant natural heritage and features and areas – Unknown – Field studies conducted in 2010 and significance of identified habitats will be determined. Mitigation measures will be developed - the 2011 data still needs to be incorporated 	

	<p>into the ER in order for it to be complete</p> <ul style="list-style-type: none"> • Significant earth or life science features – unknown – the results of the 2010 field investigations will be assessed for presence/absence of significant earth or life science features • Fish Migration – Unknown – Fisheries investigations will be undertaken to determine where critical spawning habitats are located and if the dams would block migration to these habitats
<p>A description of potential effects</p>	<p>Section 5.1 (page 72-74) provides a list of the identified potential effects.</p> <p>However, Xeneca states that additional assessment of effects will be undertaken subsequent to the 2011 field investigations (refer to p. 71).</p> <p>They refer each effect to table 4.</p> <p>The assessment of potential effects should be described as outline in section 4.3.1 of the Class EA. The proponent should provide:</p> <ul style="list-style-type: none"> • The potential negative effect • The relative level of the effect • The mitigation or impact management measures that will be used • Any individual net effects (after mitigation) and their significance • The overall positive, neutral and negative effects of the project <p>Also, in table 4, there are several examples where the mitigation measures, resolution and residual effects can not be determined because additional studies must be completed. Examples in the table include:</p> <ul style="list-style-type: none"> • Water Quality – Reduced Dissolved Oxygen levels in as a result of the reduced flows and mixing downstream of the facility – residual effect unknown due to outstanding data and information • Water Quality – Inundation resulting in elevated levels of methyl-mercury in water – Unknown due to outstanding data and information (this is important because they will be holding water in the headpond and this has potential to increase mercury levels) • Terrestrial Wildlife – Access Road Construction – Mitigation to be determined – Unknown due to outstanding data and information • Terrestrial Wildlife –Connection line Construction– Unknown due to outstanding data and information • Fish Habitat – impacts to Brook Trout and their habitat – in order to identify potential impacts and develop appropriate mitigation further investigation are required – residual effects are “assumed” to be yes <p>Based on the information in the table alone, it does not appear that the effects and the mitigation measures or the residual effects have been assessed at the appropriate level in the ER.</p>

<p>The results of the analysis, evaluation, and assessment conducted for the subject effects, concerns or issues</p>	<p>Table 4 lists the identified issues and summarizes the management strategies for each issue. See above notes.</p>
<p>Information on public and agency consultation including:</p> <ul style="list-style-type: none"> - a description of the public and agency consultation program and consultation activities/events - a list of agencies contacted, summary of how they have been or have been attempted to be addressed 	<p>Page 8-9 and Section 4.3 & 4.5 provide a list of agencies/communities contacted Section 4 – provides a summary of the stakeholder consultation that occurred:</p> <ul style="list-style-type: none"> • As stated in Section 4.4, public consultation included public information sessions, public interest group meetings and correspondences, newspaper notices and advertisements, and a project web site. Appendix D provides a record of the consultation activities that took place. • Government agency consultation included direct and/or teleconference meetings, circulation of notices and project description. Section 4.3 provides a summary of the consultation events with specific federal, provincial and municipal stakeholders. Appendix C provides a record of the consultation (i.e. correspondences, meeting minutes etc.) that took place. <p>The technical issues section of this document reveals that there are still outstanding issues for government agencies. This suggests that the proponent has not completed the requirements in the Class EA for Public and Agency Consultation as these have not been addressed in the final ER and there is no final report on the outcomes of the Public Consultation Plan. Appendix D provides a long list of emails and meeting minutes that does not seem to be complete as there are meeting minutes that are missing from April 28 and 29 (only an actions sheet) and there is nothing from June 15 technical meeting.</p>
<p>Information on Aboriginal community & public and agency consultation, including:</p> <ul style="list-style-type: none"> - a description of the public and agency consultation program and consultation activities/ events a list of agencies/communities contacted - a summary of public and agency concerns or issues - how concerns or issues have been or have attempted to be addressed 	<p>As stated in Section 4.5, Aboriginal community consultation includes correspondence, community meetings and agreement negotiations.</p> <p>The Aboriginal Consultation Plan was only provided to the 10 Aboriginal Communities potentially affected on August 10, 2011 which suggests that the consultation period has only begun and has not been completed for this project. It also suggests that Aboriginal comments on this project have not yet been incorporated into the ER.</p> <p>There is not enough information presented in the ER for MOE to make a determination of whether adequate consultation has taken place.</p>
<p>Changes to the original proposal, if any, resulting from the environmental evaluation and/or consultation and engagement processes</p>	
<p>Description of the net effect(s) (after mitigation), if any, including an identification of the significance of the net effect(s)</p>	<p>Section 6 briefly describes the methodology (including criteria for assessing significance of the impacts)</p> <p>Table 5 summarizes the assessment of the residual effects (including positive impacts). Table 5 includes assumptions from table 4, which is discussed above as not being complete as data collection is still required for many environmental components.</p>

<p>Planned avoidance/prevention/mitigation and/or other impact management measures for any potential negative effects</p>	<p>Table 4 includes a summary of recommended mitigation.</p> <p>As discussed above, the planned avoidance/prevention/mitigation for negative effects are not complete as table 4 identifies a multitude of issues for which data is still required to evaluate the potential measures to be taken. This is not complete in the ER.</p>
<p>A review of overall advantages and disadvantages of the project, including a discussion of any benefits that might offset disadvantages</p>	<p>The discussion of advantages and disadvantages is intermittent throughout Section 5.</p> <p>There is also a section on "Potential Project Effects" in the Executive Summary which outlines the Negative and Positive impacts. Some advantages are described in the Executive Summary including:</p> <ul style="list-style-type: none"> • Displacement for the need for fossil fuel or nuclear electricity • Providing positive benefits to power grid • Provides positive financial benefits to local and provincial governments • Job opportunities in the surrounding townships (mentioned in 5.1.11 as well) <p>Negative or disadvantages include:</p> <ul style="list-style-type: none"> • The creation of a head pond 6.4km upstream (which has actually been determined to be beyond this 6.4km) • Fluctuations in water levels up and downstream • Water temperature to fluctuations in head pond • Navigation will be reduced/changed (section 5) • Reduction is natural aesthetics at the site location <p>There was no detailed discussion on the balancing of benefits that may offset the negative impacts and therefore the ER is not complete</p>
<p>A summary of planned construction and post-construction monitoring programs, as required, including mechanisms for their implementation and reporting</p>	<p>Section 8 provides a description of construction and operation monitoring. This section is very brief and does not discuss the mechanisms for implementation. It does however provide a statement that a regular Project Implementation Plan will be provided to agencies to update the project status, implementation of commitments and results from effects and mitigation programs (effects and mitigation should have been provided as a requirement of section 4.4.1 of the Class EA and not in a separate report outside of the commenting period). There is no indication on to whom, when and how the proponent proposes to provide these reports.</p> <p>Section 10 also provides a list of commitments made by Xeneca as the project proceeds which includes the Project Implementation Plan.</p> <p>Provided in Annexes to the ER.</p>
<p>Technical reports supporting the findings, as appropriate</p>	<p>However, based on MOE review, there are outstanding reports to support this ER. See below – Technical Issues for the required information to be supported by reports.</p>
<p>Anticipated timelines for project implementation</p>	<p>Page 3 – Figure 3 provides the Project Development Schedule</p> <p>Page 33 – Table 1 provides a Project Component Construction Schedule</p>

A listing of any other known required approvals and permits	Section 9 lists the other known required approvals and permits for the project.
Technical Issues	
Issue	The Chute Reference
Area of Inundation	<p>The proposed area of inundation is 6.8km (6.4km upstream of the dam and 400 metres downstream of the dam). Hydraulic Modelling was used to determine the area of inundation and the modelling was found to have a number of uncertainties which reduce credibility of the results. These uncertainties include:</p> <ul style="list-style-type: none"> - Out of the 6.8km reach only 1km of reach was surveyed for river transects - 85% of the modelling reach did not have any surveyed transects - Hydraulic controls were not surveyed (riffles and rapids) - Model was calibrated to 1km of reach and not the entire length of the reach - Large discrepancy between observed and modelled results, elevations were overestimated in modelling and underestimated during validation - Third Falls Generating Station was not considered in the modelling which could have significant effects on the downstream reach - Inconsistency in the spillway structure throughout modelling (in HEC-RAS model used an inline ogee spillway and in electronic file used a lateral broad crested weir) - Crest elevation was 297m in the model which is 1m below the operating headwater level - Current modelling results reveal that inundation will go further upstream than 6.4km which can not be computed due to lack of survey data
Minimum Flow	<p>It is MOE's recommendation to remodel in order to achieve more accurate results.</p> <p>The Chute project is adjacent to the Clay Belt Conservation Reserve. In order to preserve ecological viability, a monthly Q80 flows at the boundary into the Conservation Reserve should be maintained at all times, provided that the natural inflow at The Chute is at least Q80. The proposed compensation and environmental flow is Q99 which appears to be low.</p>
Water Quality, Benthic Invertebrates and Mercury	<p>MOE requires that the proponent provide justification for the proposed minimum flow.</p> <p>The fish tissue and contaminant monitoring completed to date is inadequate to assess impacts from The Chute. Water quality monitoring has been limited, only 2 sampling events have been completed; one upstream and one downstream. Shortcoming in the sampling and reporting include:</p> <ul style="list-style-type: none"> - Missing an upstream reference location that would not be affected by inundation - Sampling events insufficient to characterize temporal variability - Samples had high Zn concentrations suggesting potential sample collection or lab analytical problems - Dissolved Oxygen measurements did not include near sediment or surface and time of day not recorded - Missing water quality parameters - Water sample collection method not provided - A map showing sampling locations and the boundaries of proposed inundations not

	<p>provided</p> <p>MOE recommends that the proponent should address these issues as a part of a more fulsome baseline characterization in 2011. The baseline and post-development monitoring program should be developed with input from Northern Region's Water Resources Unit</p> <p>Table 4- General construction activities along shoreline of waterways: this issue identifies that turbidity of water will be monitored during construction.</p> <p>MOE requires details of how where and when turbidity monitoring will be occurring.</p> <p>Table 4- Intermittent Operation of Facility - Increase in suspended sediment: this issue notes that maximum suspended sediment concentration should not decrease the Secchi disc reading by more than 10%.</p> <p>MOE requires that the proponent provides specifics of turbidity monitoring locations, frequency and method during operation.</p> <p>Table 4- Inundation Resulting in Elevated levels of Methyl Mercury in Water: this issue states that mitigation will be removal of terrestrial vegetation and woody debris.</p> <p>MOE recommends that soil be included as an additional source of mercury.</p> <p>The 2011 Field Plan contains sampling of fish tissue within the current inundation, but that does not constitute adequate baseline monitoring. Enhanced mercury methylation and increased mercury levels in fish are associated with new reservoirs and data will need to be collected to support public fish consumption advisories.</p> <p>MOE recommends developing a detailed surface water and fish monitoring plan.</p> <p>Creation of the head pond will increase water surface area and may reduce flushing, potentially affecting dissolved oxygen levels. The location of the head pond in relation to the mixing zone for nutrients from the Foleyet Waste Water Treatment Plant should be determined.</p> <p>MOE requires that Reduced Dissolved Oxygen Concentrations in the Head Pond be added as an issue in Table 4.</p> <p>Table 4 - Soil and Sediment Quality- Management of Excavated Materials:</p> <p>MOE recommends this issue section include details on how Acid Rock Drainage will be assessed.</p>
Issues and Management Strategies	<p>The ER references the proposed Third Falls Project upstream of The Chute. The Proponent suggests that the cumulative effects of the Third Falls Project on the Chute will be evaluated should the Third Falls project proceed as a separate ER. There are anticipated implications of Third Falls proceeding on effects evaluated and described in The Chute ER.</p> <p>The MOE has determined that because of the proximity of these two dams and the cumulative effects they may have on each other, the two projects should be modelled together to inform The Chute EA.</p>
Cumulative effects	

	<p>Section 7 – Cumulative Effects – The proponent states in the ER that “The assessment of cumulative effects outlined below is based on a precautionary approach...As additional information about The Chute and other projects become available, the characterization and assessment of cumulative effects will be further discussed.” It also states that they have only assessed the “potential cumulative effects” and under “Third Falls GS” it states that “If both projects are built, there would then be a total of three structures on the river where only one currently exists and there may be cumulative effects associated with intermittent operation and inundation”.</p> <p>Table 6 provides a summary of potential cumulative effects, however there has been no detailed modelling or studies completed to support this.</p> <p>The Potential Effects Identification Matrix identifies effects on:</p> <ul style="list-style-type: none"> - The location of people businesses, institutions or public facilities as Unknown will be identified later by consulting with local residents and businesses. - Community character enjoyment of property or local amenities as Unknown and to be determined. <p>There was no data or analysis completed to evaluate the impacts to tourism. The proponent is relying on a Usage Survey, which has not yet been completed, and not financial analysis to determine the effect on the local economy.</p> <p>Studies should be completed prior to the submission of the ER and findings should be discussed in the report in order to determine the positive or negative effects on the local area.</p> <p>Elevated levels of methyl mercury in fish tissue also present a socio-economic impact and of particular interest to some Aboriginal communities which is also not addressed in the ER.</p> <p>MOE recommends evaluating impacts to the local economy using a financial analysis and also recommends addressing the socio-economic effects of contaminated fish to the area.</p>
Economic/Socio-economic Impacts	
Archaeological Effects	<p>The Potential Effects Identification Matrix identifies under cultural heritage resource considerations, Archaeological sites that there are no known sites. It also notes that a Stage One Archaeological Assessment was completed and that the findings of a Stage Two study will inform mitigation.</p> <p>The ER notes that Woodland Heritage Services recommends a Stage II Archaeological Study and a Stage II field survey be completed and made available to the project team, public and aboriginal groups in order for them to comments and determine if there were impacts to their interests. This has not yet been completed and therefore effects cannot be known. This does not satisfy the requirements of the Class EA nor the EAA.</p> <p>MOE has previously indicated to Xeneca that the existing landfill site did not have the capacity to accept waste from this project. The ER did not identify a site with the available capacity to accept waste from this project and page 35 of the ER notes that the proponent has not yet found a landfill site within the area that will be able to accept waste from the site. They also note that any site found may require an amendment to the CoFA.</p>
Waste	

The proponent has identified the potential of hazardous waste to be created during construction and though they commit to disposing of it inline with the Reg. 347 under the EPA, they have not identified a facility that would be able to take this waste.

Table 1 – Mandatory Requirements for the Environmental Report

Class EA Requirements	The Chute Reference
Section Requirements	The Chute Reference
<p>4.4.1 Environmental Report In accordance with Section 4.4.1 of the Waterpower Class EA, the ER must contain:</p>	
<p>Background information (project description, purpose)</p>	<p>The Executive Summary and Section 3 provide a description of the proposed undertaking and includes information on:</p> <ul style="list-style-type: none"> o Design options and rationale o Generating station components, o Ancillary works o Construction strategy o Operation strategy
<p>Map of project location and study area</p>	<p>Section 1.2 – provides a brief statement on the purpose of the undertaking “construction of the 3.6MW hydroelectric generating station... to meet government and energy regulatory goals and objective to generate sustainable and reliable hydroelectric power.” No further description of the purpose of the undertaking is provided in the ER. Page 2 – Figure 1 provides a map of the project location but with very few reference points (Highway, Townsite). The study area is not shown on this map. The study area should correspond with the identified zone of influence. Page 7 explains that literature reviews, field investigations and aerial photography were utilized</p>
<p>Description of the study area and the existing environmental context</p>	<p>Section 2 provides a description of the existing environment within the study area, defined as the 2.8 ha inundation area (now proposed to be 6.4 ha). Considered a broad definition of the environment including natural, socio-economic, and cultural environment. Page 1 of the Forward states that as a “proactive position”, environmental studies/field investigations are planned for 2011. In order to meet the requirements of the Class EA, studies should be undertaken for the entire study area in order for interested parties to review the work that has been completed in order to provide comments on the probable effects and proposed mitigation. Contained in Tables 4 and 5 of the ER</p>
<p>A completed potential effects identification matrix</p>	<p>This table is not complete there are a great deal of unknowns presented in this table indicating that further studies will be completed at a later time to assess effects and propose mitigation. There are several examples in the table that show it is incomplete and data deficient including:</p> <ul style="list-style-type: none"> • Lands subject to natural or human made hazards – Unknown – Field investigation will be conducted to assess presence/absence of natural hazards • Significant natural heritage and features and areas – Unknown – Field studies conducted in 2010 and significance of identified habitats will be determined. Mitigation measures will be developed - the 2011 data still needs to be incorporated

<p>A description of potential effects</p>	<p>into the ER in order for it to be complete</p> <ul style="list-style-type: none"> • Significant earth or life science features – unknown – the results of the 2010 field investigations will be assessed for presence/absence of significant earth or life science features • Fish Migration – Unknown – Fisheries investigations will be undertaken to determine where critical spawning habitats are located and if the dams would block migration to these habitats <p>Section 5.1 (page 72-74) provides a list of the identified potential effects.</p> <p>However, Xeneca states that additional assessment of effects will be undertaken subsequent to the 2011 field investigations (refer to p. 71).</p> <p>They refer each effect to table 4.</p> <p>The assessment of potential effects should be described as outline in section 4.3.1 of the Class EA. The proponent should provide:</p> <ul style="list-style-type: none"> • The potential negative effect • The relative level of the effect • The mitigation or impact management measures that will be used • Any individual net effects (after mitigation) and their significance • The overall positive, neutral and negative effects of the project <p>Also, in table 4, there are several examples where the mitigation measures, resolution and residual effects can not be determined because additional studies must be completed. Examples in the table include:</p> <ul style="list-style-type: none"> • Water Quality – Reduced Dissolved Oxygen levels in as a result of the reduced flows and mixing downstream of the facility – residual effect unknown due to outstanding data and information • Water Quality – Inundation resulting in elevated levels of methyl-mercury in water – Unknown due to outstanding data and information (this is important because they will be holding water in the headpond and this has potential to increase mercury levels) • Terrestrial Wildlife – Access Road Construction – Mitigation to be determined – Unknown due to outstanding data and information • Terrestrial Wildlife – Connection line Construction – Unknown due to outstanding data and information • Fish Habitat – impacts to Brook Trout and their habitat – in order to identify potential impacts and develop appropriate mitigation further investigation are required – residual effects are “assumed” to be yes <p>Based on the information in the table alone, it does not appear that the effects and the mitigation measures or the residual effects have been assessed at the appropriate level in the ER.</p>
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<p>The results of the analysis, evaluation, and assessment conducted for the subject effects, concerns or issues</p>	<p>Table 4 lists the identified issues and summarizes the management strategies for each issue. See above notes.</p>
<p>Information on public and agency consultation including: - a description of the public and agency consultation program and consultation activities/events - a list of agencies contacted, summary of how they have been or have been attempted to be addressed</p>	<p>Page 8-9 and Section 4.3 & 4.5 provide a list of agencies/communities contacted Section 4 – provides a summary of the stakeholder consultation that occurred:</p> <ul style="list-style-type: none"> As stated in Section 4.4, public consultation included public information sessions, public interest group meetings and correspondences, newspaper notices and advertisements, and a project web site. Appendix D provides a record of the consultation activities that took place. Government agency consultation included direct and/or teleconference meetings, circulation of notices and project description. Section 4.3 provides a summary of the consultation events with specific federal, provincial and municipal stakeholders. Appendix C provides a record of the consultation (i.e. correspondences, meeting minutes etc.) that took place. <p>The technical issues section of this document reveals that there are still outstanding issues for government agencies. This suggests that the proponent has not completed the requirements in the Class EA for Public and Agency Consultation as these have not been addressed in the final ER and there is no final report on the outcomes of the Public Consultation Plan. Appendix D provides a long list of emails and meeting minutes that does not seem to be complete as there are meeting minutes that are missing from April 28 and 29 (only an actions sheet) and there is nothing from June 15 technical meeting.</p>
<p>Information on Aboriginal community & public and agency consultation, including: - a description of the public and agency consultation program and consultation activities/ events a list of agencies/communities contacted - a summary of public and agency concerns or issues - how concerns or issues have been or have attempted to be addressed</p>	<p>As stated in Section 4.5, Aboriginal community consultation includes correspondence, community meetings and agreement negotiations.</p> <p>The Aboriginal Consultation Plan was only provided to the 10 Aboriginal Communities potentially affected on August 10, 2011 which suggests that the consultation period has only begun and has not been completed for this project. It also suggests that Aboriginal comments on this project have not yet been incorporated into the ER.</p> <p>There is not enough information presented in the ER for MOE to make a determination of whether adequate consultation has taken place.</p>
<p>Changes to the original proposal, if any, resulting from the environmental evaluation and/or consultation and engagement processes</p>	
<p>Description of the net effect(s) (after mitigation), if any, including an identification of the significance of the net effect(s)</p>	<p>Section 6 briefly describes the methodology (including criteria for assessing significance of the impacts)</p> <p>Table 5 summarizes the assessment of the residual effects (including positive impacts). Table 5 includes assumptions from table 4, which is discussed above as not being complete as data collection is still required for many environmental components.</p>

<p>Planned avoidance/prevention/mitigation and/or other impact management measures for any potential negative effects</p>	<p>Table 4 includes a summary of recommended mitigation.</p> <p>As discussed above, the planned avoidance/prevention/mitigation for negative effects are not complete as table 4 identifies a multitude of issues for which data is still required to evaluate the potential measures to be taken. This is not complete in the ER.</p> <p>The discussion of advantages and disadvantages is intermittent throughout Section 5.</p>
<p>A review of overall advantages and disadvantages of the project, including a discussion of any benefits that might offset disadvantages</p>	<p>There is also a section on "Potential Project Effects" in the Executive Summary which outlines the Negative and Positive impacts. Some advantages are described in the Executive Summary including:</p> <ul style="list-style-type: none"> • Displacement for the need for fossil fuel or nuclear electricity • Providing positive benefits to power grid • Provides positive financial benefits to local and provincial governments • Job opportunities in the surrounding townships (mentioned in 5.1.11 as well) <p>Negative or disadvantages include:</p> <ul style="list-style-type: none"> • The creation of a head pond 6.4km upstream (which has actually been determined to be beyond this 6.4km) • Fluctuations in water levels up and downstream • Water temperature to fluctuations in head pond • Navigation will be reduced/changed (section 5) • Reduction is natural aesthetics at the site location <p>There was no detailed discussion on the balancing of benefits that may offset the negative impacts and therefore the ER is not complete</p>
<p>A summary of planned construction and post-construction monitoring programs, as required, including mechanisms for their implementation and reporting</p>	<p>Section 8 provides a description of construction and operation monitoring.</p> <p>This section is very brief and does not discuss the mechanisms for implementation. It does however provide a statement that a regular Project Implementation Plan will be provided to agencies to update the project status, implementation of commitments and results from effects and mitigation programs (effects and mitigation should have been provided as a requirement of section 4.4.1 of the Class EA and not in a separate report outside of the commenting period). There is no indication on to whom, when and how the proponent proposes to provide these reports.</p> <p>Section 10 also provides a list of commitments made by Xeneca as the project proceeds which includes the Project Implementation Plan.</p>
<p>Technical reports supporting the findings, as appropriate</p>	<p>Provided in Annexes to the ER.</p>
<p>Anticipated timelines for project implementation</p>	<p>However, based on MOE review, there are outstanding reports to support this ER. See below – Technical Issues for the required information to be supported by reports.</p> <p>Page 3 – Figure 3 provides the Project Development Schedule</p> <p>Page 33 – Table 1 provides a Project Component Construction Schedule</p>

A listing of any other known required approvals and permits

Section 9 lists the other known required approvals and permits for the project.

Technical Issues	
Issue	The Chute Reference
Area of Inundation	<p>The proposed area of inundation is 6.8km (6.4km upstream of the dam and 400 metres downstream of the dam). Hydraulic Modelling was used to determine the area of inundation and the modelling was found to have a number of uncertainties which reduce credibility of the results. These uncertainties include:</p> <ul style="list-style-type: none"> - Out of the 6.8km reach only 1km of reach was surveyed for river transects - 85% of the modelling reach did not have any surveyed transects - Hydraulic controls were not surveyed (riffles and rapids) - Model was calibrated to 1km of reach and not the entire length of the reach - Large discrepancy between observed and modelled results, elevations were overestimated in modelling and underestimated during validation - Third Falls Generating Station was not considered in the modelling which could have significant effects on the downstream reach - Inconsistency in the spillway structure throughout modelling (in HEC-RAS model used an inline ogee spillway and in electronic file used a lateral broad crested weir) - Crest elevation was 297m in the model which is 1m below the operating headwater level - Current modelling results reveal that inundation will go further upstream than 6.4km which can not be computed due to lack of survey data
Minimum Flow	<p>It is MOE's recommendation to remodel in order to achieve more accurate results.</p> <p>The Chute project is adjacent to the Clay Belt Conservation Reserve. In order to preserve ecological viability, a monthly Q80 flows at the boundary into the Conservation Reserve should be maintained at all times, provided that the natural inflow at The Chute is at least Q80. The proposed compensation and environmental flow is Q99 which appears to be low.</p>
Water Quality, Benthic Invertebrates and Mercury	<p>MOE requires that the proponent provide justification for the proposed minimum flow.</p> <p>The fish tissue and contaminant monitoring completed to date is inadequate to assess impacts from The Chute. Water quality monitoring has been limited, only 2 sampling events have been completed; one upstream and one downstream. Shortcoming in the sampling and reporting include:</p> <ul style="list-style-type: none"> - Missing an upstream reference location that would not be affected by inundation - Sampling events insufficient to characterize temporal variability - Samples had high Zn concentrations suggesting potential sample collection or lab analytical problems - Dissolved Oxygen measurements did not include near sediment or surface and time of day not recorded - Missing water quality parameters - Water sample collection method not provided - A map showing sampling locations and the boundaries of proposed inundations not

	<p>provided</p> <p>MOE recommends that the proponent should address these issues as a part of a more fulsome baseline characterization in 2011. The baseline and post-development monitoring program should be developed with input from Northern Region's Water Resources Unit</p> <p>Table 4- General construction activities along shoreline of waterways: this issue identifies that turbidity of water will be monitored during construction.</p>
<p>Issues and Management Strategies</p>	<p>MOE requires details of how where and when turbidity monitoring will be occurring.</p> <p>Table 4- Intermittent Operation of Facility - Increase in suspended sediment: this issue notes that maximum suspended sediment concentration should not decrease the Secchi disc reading by more than 10%.</p> <p>MOE requires that the proponent provides specifics of turbidity monitoring locations, frequency and method during operation.</p> <p>Table 4- Inundation Resulting in Elevated levels of Methyl Mercury in Water: this issue states that mitigation will be removal of terrestrial vegetation and woody debris.</p> <p>MOE recommends that soil be included as an additional source of mercury.</p> <p>The 2011 Field Plan contains sampling of fish tissue within the current inundation, but that does not constitute adequate baseline monitoring. Enhanced mercury methylation and increased mercury levels in fish are associated with new reservoirs and data will need to be collected to support public fish consumption advisories.</p> <p>MOE recommends developing a detailed surface water and fish monitoring plan.</p> <p>Creation of the head pond will increase water surface area and may reduce flushing, potentially affecting dissolved oxygen levels. The location of the head pond in relation to the mixing zone for nutrients from the Foleyet Waste Water Treatment Plan should be determined.</p> <p>MOE requires that Reduced Dissolved Oxygen Concentrations in the Head Pond be added as an issue in Table 4.</p> <p>Table 4 - Soil and Sediment Quality- Management of Excavated Materials:</p> <p>MOE recommends this issue section include details on how Acid Rock Drainage will be assessed.</p>
<p>Cumulative effects</p>	<p>The ER references the proposed Third Falls Project upstream of The Chute. The Proponent suggests that the cumulative effects of the Third Falls Project on the Chute will be evaluated should the Third Falls project proceed as a separate ER. There are anticipated implications of Third Falls proceeding on effects evaluated and described in The Chute ER.</p> <p>The MOE has determined that because of the proximity of these two dams and the cumulative effects they may have on each other, the two projects should be modelled together to inform The Chute EA.</p>

	<p>Section 7 – Cumulative Effects – The proponent states in the ER that “The assessment of cumulative effects outlined below is based on a precautionary approach...As additional information about The Chute and other projects become available, the characterization and assessment of cumulative effects will be further discussed.” It also states that they have only assessed the “potential cumulative effects” and under “Third Falls GS” it states that “if both projects are built, there would then be a total of three structures on the river where only one currently exists and there may be cumulative effects associated with intermittent operation and inundation”.</p> <p>Table 6 provides a summary of potential cumulative effects, however there has been no detailed modelling or studies completed to support this.</p>
<p>Economic/Socio-economic Impacts</p>	<p>The Potential Effects Identification Matrix identifies effects on:</p> <ul style="list-style-type: none"> - The location of people businesses, institutions or public facilities as Unknown will be identified later by consulting with local residents and businesses. - Community character enjoyment of property or local amenities as Unknown and to be determined. <p>There was no data or analysis completed to evaluate the impacts to tourism. The proponent is relying on a Usage Survey, which has not yet been completed, and not financial analysis to determine the effect on the local economy.</p> <p>Studies should be completed prior to the submission of the ER and findings should be discussed in the report in order to determine the positive or negative effects on the local area.</p> <p>Elevated levels of methyl mercury in fish tissue also present a socio-economic impact and of particular interest to some Aboriginal communities which is also not addressed in the ER.</p> <p>MOE recommends evaluating impacts to the local economy using a financial analysis and also recommends addressing the socio-economic effects of contaminated fish to the area.</p>
<p>Archaeological Effects</p>	<p>The Potential Effects Identification Matrix identifies under cultural heritage resource considerations, Archaeological sites that there are no known sites. It also notes that a Stage One Archaeological Assessment was completed and that the findings of a Stage Two study will inform mitigation.</p> <p>The ER notes that Woodland Heritage Services recommends a Stage II Archaeological Study and a Stage II field survey be completed and made available to the project team, public and aboriginal groups in order for them to comments and determine if there were impacts to their interests. This has not yet been completed and therefore effects cannot be known. This does not satisfy the requirements of the Class EA nor the EAA.</p> <p>MOE has previously indicated to Xeneca that the existing landfill site did not have the capacity to accept waste from this project. The ER did not identify a site with the available capacity to accept waste from this project and page 35 of the ER notes that the proponent has not yet found a landfill site within the area that will be able to accept waste from the site. They also note that any site found may require an amendment to the CoFA.</p>
<p>Waste</p>	

The proponent has identified the potential of hazardous waste to be created during construction and though they commit to disposing of it inline with the Reg. 347 under the EPA, they have not identified a facility that would be able to take this waste.

Ministry of the Environment

Environmental Approvals Branch

2 St. Clair Avenue West
Floor 12A
Toronto ON M4V 1L5
Tel.: 416 314-8001
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Ministère de l'Environnement

Direction des autorisations environnementales

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MAR 02 2012

MAR 02 2012

Mr. Patrick Gillette
President and COO
Xeneca Power Development
5160 Yonge Street, Suite 520
North York ON M2N 6L9

Dear Mr. Gillette:

Between August 9, 2011 and September 12, 2011, the Minister of the Environment (MOE) received seven Part II Order (PIIO) requests from members of the public asking that Xeneca Power Development Incorporated (Xeneca) be required to prepare an individual environmental assessment for the proposed Ivanhoe River – The Chute Hydroelectric Generation Station (Project).

Based on the MOE staff review of the Environmental Report, the key features of the Project are the following:

- Run of the river type facility with modified peaking;
- A nameplate capacity of 3.6 megawatts;
- Intake and powerhouse facility;
- 85 metre (m) spillway dam and a 110 m long earthen embankment;
- 27.6 kilovolt transmission line to connect to the provincial power supply grid;
- Zone of Influence (ZOI) is expected to span a distance of 6.4 kilometres (km) upstream and 400 m downstream; and,
- Existing access road upgrades (1.8 kilometres) and new road construction (500 m).

It is my understanding that the Project is being planned in accordance with the category of new projects on managed river systems provisions of the Ontario Waterpower Association's Class Environmental Assessment for Waterpower Projects (OWA Class

EA). The OWA Class EA requires proponents of projects in this category to complete a series of steps from which the project moves from concept to implementation.

Under Section 13 of the Environmental Assessment Act (EAA), a proponent of an undertaking subject to a class environmental assessment shall not proceed with the undertaking unless the proponent does so in accordance with the class environmental assessment (in the alternative, the proponent may carry out an individual environmental assessment). Staff of the MOE have reviewed the Project's Environmental Report and I have determined that the Project was not planned in accordance with the requirements of the OWA Class EA. Therefore, the Minister of the Environment is unable to consider the Part II Order requests at this time.

Based on MOE's review of the Environmental Report, Xeneca has failed to meet the OWA Class EA requirements in the following ways: baseline data and the assessment of potential impacts and associated mitigation is incomplete; insufficient public and Aboriginal consultation and engagement as a result of significant Project changes; and, lack of traceability and transparency in Xeneca's decision-making process and associated documentation. Furthermore, I have concerns that Xeneca proceeded with the issuance of its Notice of Completion for the Environmental Report despite the outstanding environmental issues identified by both the MOE's Northern Region, and Ministry of Natural Resources (MNR).

Assessment of Impacts

Phase 3 (Project Assessment) of the OWA Class EA requires proponents to assess key potential impacts, and develop strategies and mitigation measures to manage them. At the end of the project assessment phase, proponents should be in a position to assess the overall environmental advantages and disadvantages of the project.

Based on MOE staff review of the Environmental Report, Xeneca has not completed the project assessment phase of the OWA Class EA because the Project was not fully assessed, the impacts of the additional ZOI (3.6 km) was not evaluated, and the documented assessment work in the Environmental Report is incomplete.

It is my understanding that the stated ZOI of this Project has more than doubled since the start of the OWA Class EA planning process from 2.8 km to 6.4 km. I understand that Xeneca has completed some additional studies on the additional ZOI since the posting of the Notice of Completion for the Project; however, the evaluation of the potential environmental effects of the additional ZOI is incomplete and the additional studies are

not documented in the Environmental Report. Also, I understand that the MNR and MOE's Northern Region have outstanding concerns with the current ZOI because of deficient hydrology modelling and analysis. Without sufficient baseline environmental information to confirm whether the current ZOI is appropriate, a thorough assessment of effects cannot be completed.

Proponents are required to ensure that all potential impacts are identified, assessed and mitigated as part of the OWA Class EA planning process prior to finalizing the Environmental Report and posting the Notice of Completion. Part II Order requesters raise concerns relating to visual aesthetics, navigable waters and tourism which are potential effects identified in the Environmental Report as either unknown and/or outstanding data. Commitments in the Environmental Report to complete data collection and assessment of effects post EA does not provide the public, Aboriginal communities and agencies with a meaningful opportunity to provide input on the Project nor to submit a Part II Order request on a completed Class EA study.

Public and Aboriginal Consultation and Engagement

A key aspect of Phase 1 (Project Concept) under the OWA Class EA is the development of public and Aboriginal consultation and engagement plans. The Public and Aboriginal Consultation Plans are to be developed in the early planning stages of projects in order to inform a meaningful consultation program with the public and Aboriginal communities. The Notice of Commencement for the Project (Phase 2 in the OWA Class EA) was issued in December 2010, but the Public and Aboriginal Consultation Plans for the Project are dated May and June 2011, respectively. The Plans should have been developed and implemented during Phase 1 of the OWA Class EA process.

MOE staff have concerns with how information was communicated to the public and Aboriginal communities as a result of considerable changes to the Project description, planning process and the stated ZOI. Based on MOE staff review of the Environmental Report and the Public Information Centre (PIC) materials, the change in the ZOI was only communicated at the July 6 and 7th PICs, just one week prior to posting the Notice of Completion of the Environmental Report. In the MOE's view, this prevented the public and Aboriginal communities from having a meaningful opportunity to be engaged in Project planning and to have their interests and concerns considered and/or addressed as part of Xeneca's planning process. Also, based on the materials, Xeneca does not appear to have presented information on the assessment of effects of the Project in its entirety (current ZOI, new access road, location of powerhouse) and the assessment of

the effects of the additional 3.6 km ZOI was not communicated to the public at either of the July 2011 PICs.

Specific to Aboriginal Consultation, Section 4.1.3 of the OWA Class EA states that proponents need to engage with Aboriginal communities to allow them to contribute to and inform decisions relating to a project. The Environmental Report states that Xeneca has not consulted with individual Aboriginal communities to gather information specific to land and water use. Although the MNR's Site Information Package, included in the supporting documentation to the Environmental Report, indicates that several Aboriginal communities have preliminary interests and concerns about the Project, the Environmental Report does not document how these concerns were considered or addressed during Project planning.

In the Environmental Report, Xeneca commits to engaging with Aboriginal communities after the posting of the Notice of Completion. While ongoing consultation is encouraged, such a commitment is not a substitute for engaging Aboriginal communities in a meaningful way during Project planning (i.e. prior to issuing the Notice of Completion). The OWA Class EA states in section 7.1 that "Proponents are expected to involve Aboriginal communities who may be directly affected by, or have an interest in, the development of a waterpower project" and in section 4.1.3 that "Early and meaningful engagement of representative interests and public that may be affected by the Project is [...] a critical element of achieving the intent of the OWA Class EA."

Overall, there is insufficient information in the Environmental Report to demonstrate the potential impacts of the Project and identify mitigation measures, to a level that would have allowed Aboriginal communities and the public to understand the anticipated impacts and provide comments on the Project in its entirety.

Transparency

Xeneca's issuance of the Notice of Completion on July 14, 2011 for the Environmental Report was premature given that: the assessment of effects for the Project in its entirety and mitigation are not complete; the change in Project scope is not adequately explained and documented; and, the location of the powerhouse has not yet been determined. The decision making process employed by Xeneca is not transparent and not clearly documented in the Environmental Report in order to meet the intent of the OWA Class EA process as it relates to the documentation requirements.

Agency Comments

I have been made aware of the outstanding concerns raised by the MOE's Northern Region, as well as other key government agencies (Transport Canada, the Canadian Environmental Assessment Agency, Fisheries and Oceans Canada, the Ministry of Tourism and Culture, MNR) during the planning process for this Project. The significant outstanding concerns raised by these agencies include: gaps in baseline data; incomplete assessment of effects and associated mitigation plans; concerns with the proposed ZOI; incomplete and inadequate public and Aboriginal consultation; concerns with cultural landscapes, impacts on aquatic habitat and species, and cumulative effects. The MOE staff have raised similar concerns to those of the key government agencies. Xeneca has not met the intent of the consultation provisions of the Class EA or the expectations of the MOE to consider and address comments provided by government agencies. It is advantageous for proponents to work closely with agencies and address their concerns during the Class EA planning process as this will help to facilitate proponents proceeding through subsequent permits and approval processes more efficiently.

I understand that assessment of the transmission line is not required under the OWA Class EA; however, I recommend that Xeneca consider working with the MNR to assess potential impacts and select a preferred route. I also recommend that the effects of the improvements to the existing multi-use road be undertaken by Xeneca to support any other decisions by MNR to dispose of Crown land.

Conclusion

The planning process for the Project overall lacks the level of transparency, clarity, and certainty expected from proponents under the OWA Class EA. The decision-making process employed by Xeneca in reaching its conclusion is neither transparent nor traceable, and therefore Xeneca did not meet the requirements of the OWA Class EA.

In order to correct the above noted deficiencies, I am advising Xeneca to complete the following actions:

1. Consult with potentially affected or interested Aboriginal communities to gain information relating to traditional land and water use and potential impacts to Aboriginal or treaty rights, and incorporate this information into the Environmental Report. Document how any concerns raised with respect to the Project were considered and addressed.

2. Consult with MNR and MOE Northern Region on further studies needed to identify and confirm the ZOI. Conduct these further studies to confirm the ZOI.
3. Consult with appropriate key agencies to determine what further baseline data/studies and field work is required in order adequately assess the potential effects of the Project on the natural, social and economic environment. Assess any potential effects and document the work in the Environmental Report.
4. Based on the assessment of effects, select and document in the Environmental Report the location of the powerhouse facility.
5. Once the assessment of effects is completed, include appropriate mitigation and impact management measures in the Environmental Report. Any individual net effects (after mitigation) and their significance and the overall positive, neutral and negative effects of the Project are to be included and documented.
6. Revise the Environmental Report and I recommend that a draft be made available to the public and Aboriginal communities on Xeneca's website.
7. Circulate copies of the draft Environmental Report to appropriate agencies (MNR, MTC, MOE Northern Region and other relevant government agencies) for a minimum 30-day review and comment period. I recommend that Xeneca revise the draft to address any additional agency comments and concerns.
8. In accordance with the Class EA requirements, finalize the revised Environmental Report and issue a new Notice of Completion, making the Environmental Report available for a 30 day public, Aboriginal community and agency review period. The Notice should indicate that there is an opportunity to submit a Part II Order request to the Minister of the Environment during the 30-day public review period. Xeneca is advised to ensure that Aboriginal communities who may have an interest in the Project, as well as all other parties who have previously expressed an interest in the Project and those who submitted a Part II Order request, receive a copy of the Notice of Completion.
9. Provide a copy of the Environmental Report and the Notice of Completion to this Branch and the MOE's Northern Region office when the Notice of Completion is issued.

Mr. Patrick Gillette
Page 7.

If Xeneca decides to proceed with the Project and completes the above steps, MOE staff will review the Part II Order requests received between August 12 and September 9, 2011, in addition to any other requests received after the re-issuance of the Notice of Completion once Xeneca has completed these steps. I encourage Xeneca to continue to work with the requesters and attempt to resolve the concerns raised in their Part II Order requests.

Lastly, I would like to ensure that Xeneca understands that failure to comply with the EAA and more specifically, proceeding with the Project without complying with the provisions of the OWA Class EA are contraventions of the EAA and may result in prosecution under section 38 of the EAA. I am confident that Xeneca recognizes the importance and value of the EAA and will ensure that its requirements and those of the OWA Class EA are satisfied.

MOE staff would like to offer to meet with Xeneca to discuss the content of this letter in greater detail to provide clarity to enable Xeneca to meet its obligations under the EAA. Please feel free to contact Cindy Batista, Project Officer of the Environmental Approvals Branch of the MOE, at 416-314-8214 or by e-mail at cindy.batista@ontario.ca to arrange a meeting or to discuss any questions Xeneca may have relating to this matter.

Sincerely,



Agatha Garcia-Wright
Director
Environmental Assessment and Approvals Branch



5255 Yonge St., Suite 1200, North York, ON M2N 6P4
tel 416-590-9362 fax 416-590-9955 www.xeneca.com

October 14, 2011

John Taylor
Ministry of the Environment
Northern Region
435 James Street South
Suite 331,
Thunder Bay, ON P7E 6S7

Dear Mr. Taylor:

RE: Ministry of the Environment Class Environmental Assessment for Waterpower comment for the Chute, Ivanhoe River.

Xeneca Power Development Inc. ("Xeneca") has received your comment letter on the Chute Waterpower Project on the Ivanhoe letter. Xeneca acknowledges receipt of this letter and is reviewing your comments which will be incorporated into the provincial process as the project moves forward.

Xeneca's focus during the immediate post EA review period will be addressing the Part II Order ("PIIO") requests so as to support the Ontario Ministry of Environments processes. Xeneca staff and consultants will be in contact to address your specific issues and concerns.

Thank you for your kind consideration and please contact me directly with any comments or concerns at (416) 590 3070.

Yours very truly,

A handwritten signature in blue ink, appearing to read "Patrick W. Gillette", written in a cursive style.

Patrick W. Gillette

cc. Cindy Batista, EAAB, MOE
Paul Bernier, MNR
Paula Allen, APEP Supervisor, Northern Region, MOE
Sandra Dossier, Renewable Energy Coordinator, MNR Northeast Region
Tim Mutter, District Planner, MNR Chapleau District



Agency Meeting

Ivanhoe River: The Chute and Third Fall



August 16, 2012
Chapleau, ON





Thank you for your time and for your valuable input to this project.

Today's meeting will be focused on how agency and stakeholder concerns have been addressed since the initial ER was released in 2011





Purpose of Meeting

1. Follow up to agency comments on the 2011 Chutes ER Report
2. Factors leading to amalgamation of The Chute and Third Falls projects
3. Discuss possible mitigation options and strategies





MNR Core issues

- *“The zone of influence (ZOI) presented in the (2011) ER extends 6.4 km upstream from the proposed site and approximately 520 downstream from the proposed site. The OMNR believes that the zone of influence may extend to the Groundhog River downstream.”*
- *“The OMNR would like to see any further modelling, analysis, or results regarding the upstream inundation and the downstream variable flow reach.”*
- **Responding to agency comments on downstream ZOI the following studies were conducted:**
 - **Additional habitat studies**
 - **Hydraulic Modeling & bathymetry**
 - **Environmental and social economic identification mapping**





MNR Core issues

- *OMNR requested a preliminary dam operating plan for the Chute Generating Station as part of the EA planning process. The plan must clearly identify the variability in flows for the proposed operations relative to the natural flows of the river to gain an understanding of how the facility may be operated under various flow parameters and how the proposed dam operation may result in environmental effects. A preliminary dam operating plan typically describes the magnitude, duration, frequency, timing and rate of change of flows and levels — including both generated and spilled flows.*
- Responding to the request, Xeneca has developed an updated Operation Plan and provided detailed modelling to illustrate the effect on river flow and potential environmental effects.





MNR Core issues

- *“In discussions with Xeneca, MNR understands that the inundation area associated with the proposed Third Falls development may extend to the base of the Chutes site. Would these two developments not constitute one related cumulative impact on the Ivanhoe River and therefore subject to one EA review?”*
- Responding to the comments, Xeneca amalgamated the Chute and Third Fall projects into a single EA. The amalgamated projects were presented to the public and First Nations in July and August of 2012.





MNR Core issues

- *“MNR supports a coordinated and integrated process for the entire waterpower project (including the transmission lines). MNR requires sufficient information and analysis to support making decisions on dispositions associated with the transmission line.”*
- For transmission lines Xeneca has:
 - 1) used MNR reference documents to aid in determining ecologically sensitive areas and avoid them,
 - 2) used aircraft reconnaissance to aid in the terrestrial assessment, including wetland assessments,
 - 3) planning future field verification for sensitive areas to definitively ascertain if SAR are present, or work in accordance with SAR legal requirements.





MNR Core issues

- *“Additional public and First Nation review period for the revised ER may be required and possibly more public information opportunities at various locations.”*
- Xeneca has conducted additional Public Information Centres and has presented the most up to date and complete project information, including study results, operating plans and road and power line corridors (combined The Chute & Third Falls).
- Similar information has also been presented to First Nations communities, Chapleau Cree, Wabun Tribal Council.



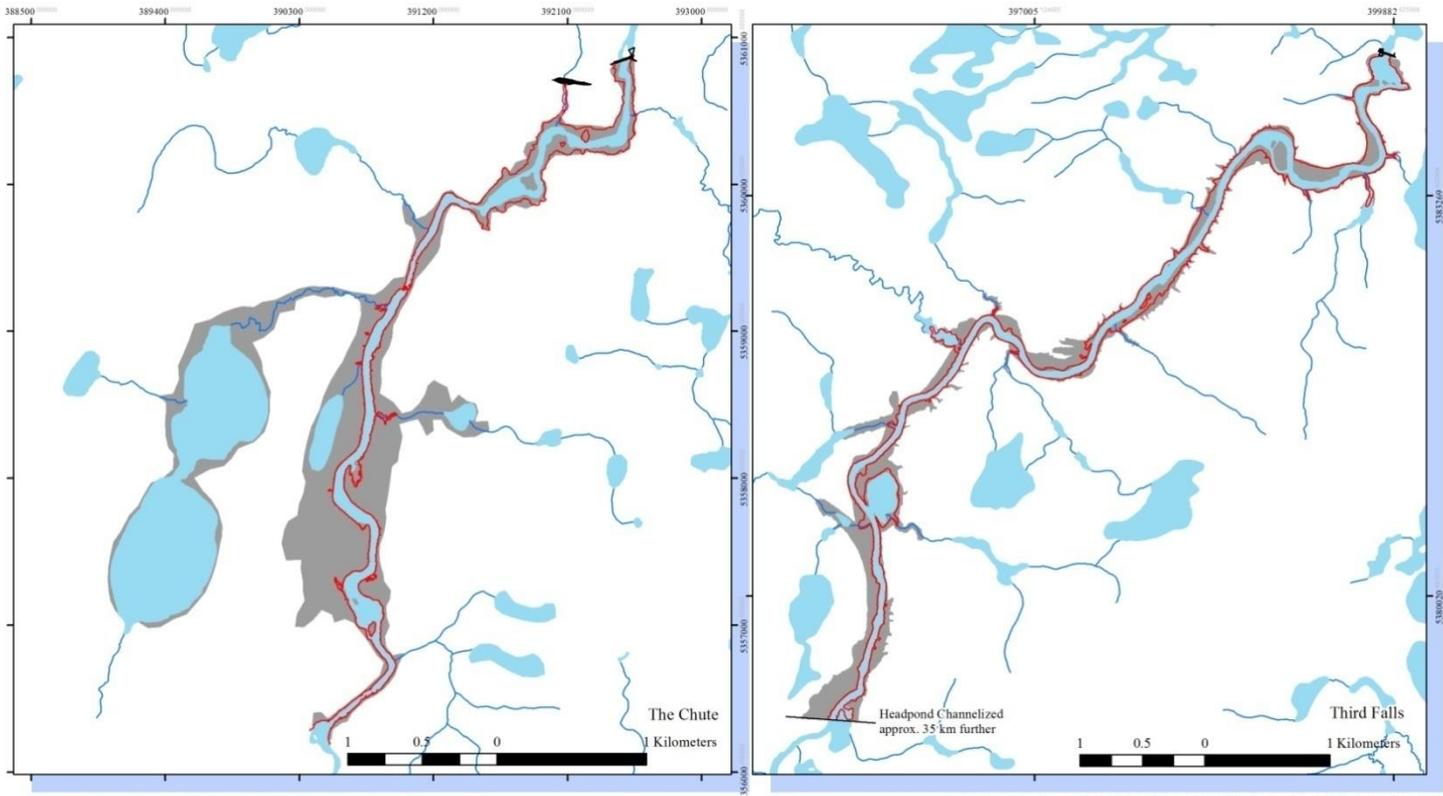


Update: amalgamating Ivanhoe projects and additional 2011/2012 Studies

- Xeneca recognizes that data gaps existed in the 2011 ER. Original submission was made in order to comply with timeline provisions of the OPA contract.
- Xeneca has undertaken very significant work to provide the information requested by regulatory agencies and to appropriately consult with Aboriginal Communities and public stakeholders.



Update: amalgamating Ivanhoe projects



The Chute/Third Falls: Headpond

- LTAf NOL Inundation
- Proposed 100yr Inundation

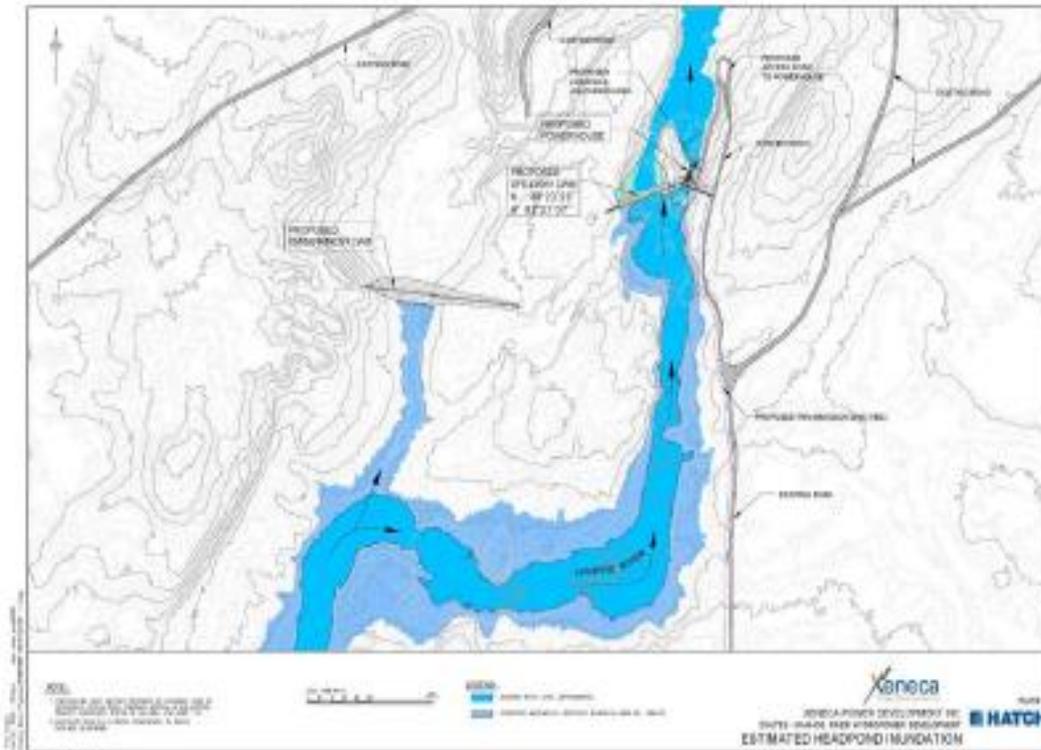
Reference data from the LIO, MNR, NRCan - UTM 17N - Produced by N Collard - Aug 13, 2012





Update: amalgamating Ivanhoe projects

Conceptual Design – The Chute

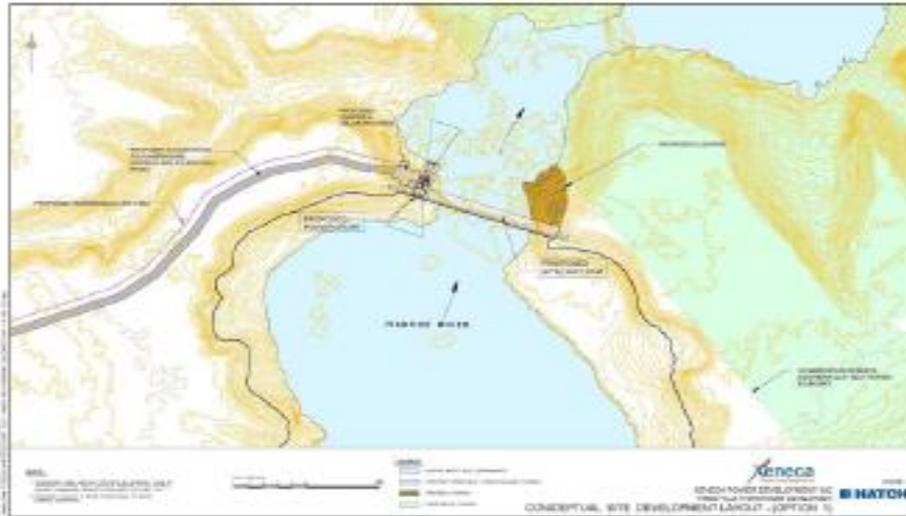




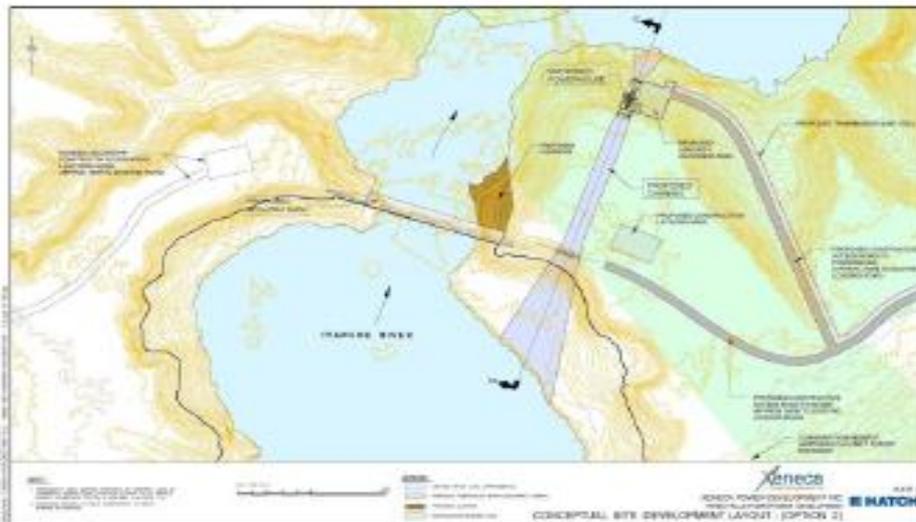
Update: amalgamating Ivanhoe projects

Conceptual Design – Third Falls

Option One

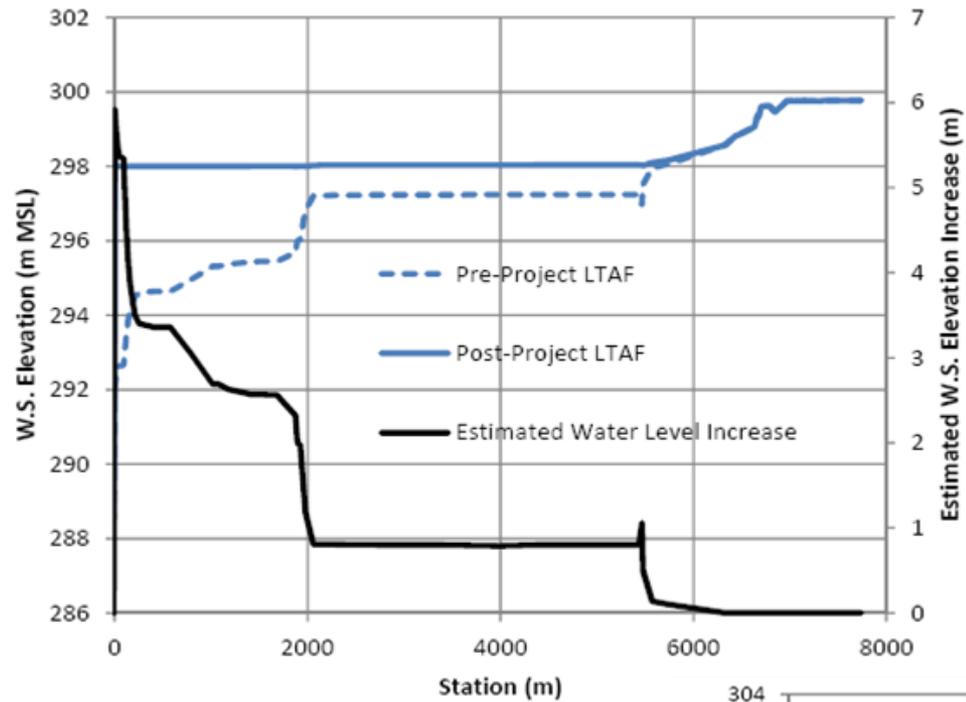


Option Two





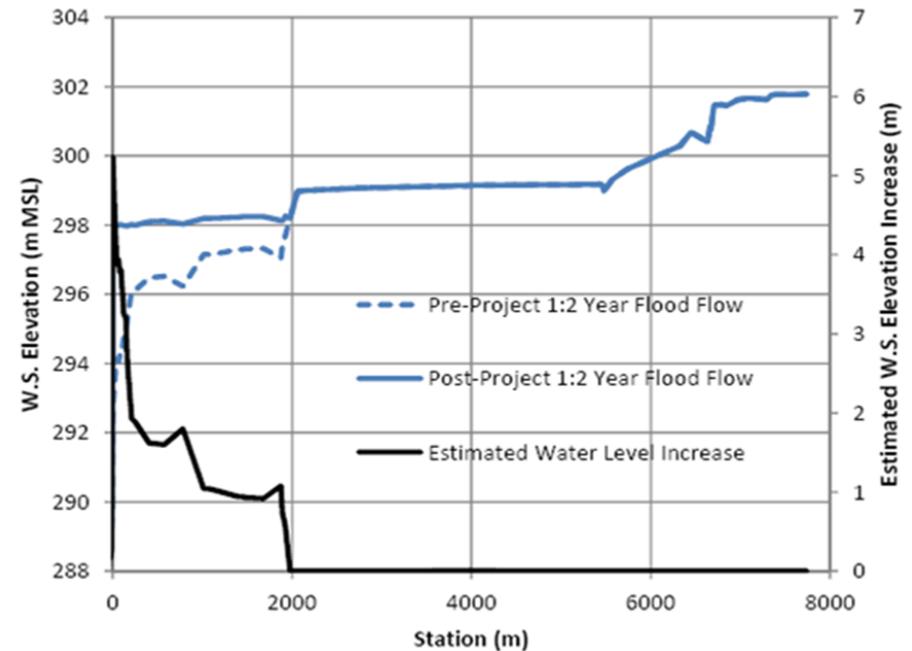
The Chute Headpond Profiles



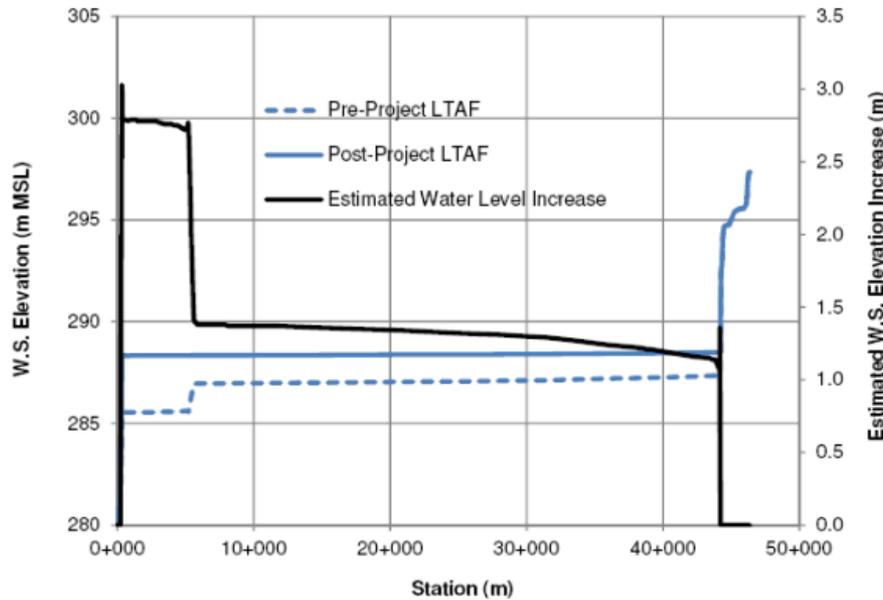
Above: Normal operation at 298 mMSL.

Right: Flood operation at 298 – 300 mMSL.

Note: most of headpond is contained within existing river channel (2 – 6 km).



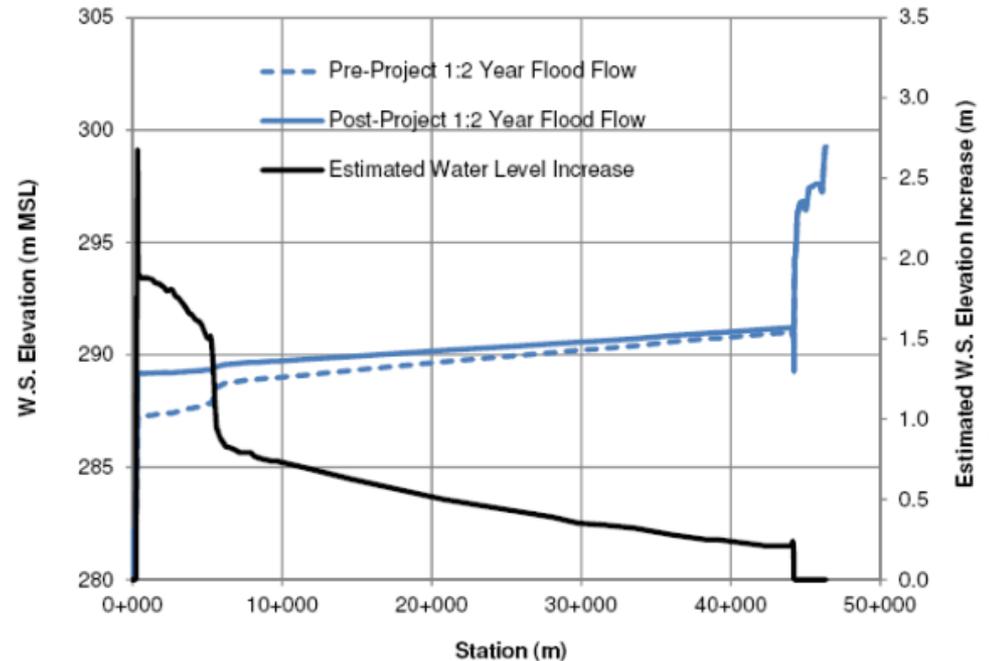
Third Falls Headpond Profiles



Above: Normal operation at 288 mMSL.

Right: Flood operation at 288 – 292 mMSL.

Note: most of headpond is contained within existing river channel (6 – 44 km).





Update: additional 2011/2012 Studies

- Additional habitat studies conducted 2011 and 2012
- Revised operating plans for Third Fall (In CR option and outside CR option)
- Downstream Bathymetry/Hydraulic Modeling for Chute
- Operating scenario graphs
- Downstream features identification maps
- Water quality monitoring program





Chute/Third Fall 2010 and 2011 Ecological Field Studies



Biology Study Areas

Third Falls – Zone of Influence (ZOI)	
2010	2011
5.4km upstream to 500m downstream	44km upstream to 2km downstream

In addition to the above noted ZOI, a 12km of river was sampled. This sample equals a total of 72km from the Groundhog River confluence to 6.5km upstream of The Chutes

The Chute – Zone of Influence (ZOI)	
2010	2011
2.75km upstream to 500m downstream	6.5km upstream to 500m downstream

Lands within approximately 120m of the inundation

2010 - 2012 NRSI Fish Collection Results

Scientific Name	Common Name	S rank	National Status (SARA)	Provincial Status (ESA)
<i>Catostomus commersoni</i>	White Sucker	S5	no status	no status
<i>Coregonus alpeaformis</i>	Lake Whitefish	S5	no status	no status
<i>Cottus bairdi</i>	Mottled Sculpin	S5	no status	no status
<i>Esox lucius</i>	Northern Pike	S5	no status	no status
<i>Etheostoma exile</i>	Iowa Darter	S5	no status	no status
<i>Etheostoma nigrum</i>	Johnny Darter	S5	no status	no status
<i>Lota lota</i>	Burbot	S5	no status	no status
<i>Notropis hudsonius</i>	Spottail Shiner	S5	no status	no status
<i>Percina caprodes</i>	Logperch	S5	no status	no status
<i>Perca flavescens</i>	Yellow Perch	S5	no status	no status
<i>Rhinichthys cataractae</i>	Longnose Dace	S5	no status	no status
<i>Sander vitreus</i>	Walleye	S5	no status	no status
<i>Micropterus dolomieu</i>	Smallmouth Bass	S5	no status	no status
<i>Acipenser fulvescens</i> Pop.2	Lake Sturgeon (Southern Hudson Bay - James Bay population)	S3	Special Concern	Special Concern
<i>Coregonus nigripinnis</i>	Blackfin Cisco*		Ambiguous – Extinct/data Deficient	
<i>Culaea inconstans</i>	Brook Stickleback	S5	No status	No status
<i>Rhinichthys obtusus</i>	Blacknose Dace	SNR	No status	No status
<i>Salvelinus fontinalis</i>	Brook Trout	SNA	No status	No status

* Walleye spawning was confirmed in the study area



Additional Fish Species Historically Known to Occur in Study Area

Scientific Name	Common Name	S rank	National Status (SARA)	Provincial Status (ESA)
<i>Coregonus artedii</i>	Cisco	S5	no status	no status
<i>Luxilus cornutus</i>	Common Shiner	S5	no status	no status
<i>Notropis heterolepis</i>	Blacknose Shiner	S5	no status	no status
<i>Percopsis omiscomaycus</i>	Trout-perch	S5	no status	no status
<i>Notropis hudsonius</i>	Spottail Shiner	S5	no status	no status



Walleye

Terrestrial Biology Results

- 138 plant species
 - No significant plant species found
- 82 bird species
 - One significant bird species, bald eagle, was observed
 - Listed as Special Concern (SARO) & Not at Risk (COSEWIC)
 - Srank is S2N, S4B



Bald Eagle

- 6 herpetofaunal species
 - Eastern Garter Snake
 - American Toad
 - Northern Spring Peeper
 - Northern Leopard Frog
 - Wood Frog
 - Red Spotted Newt



American Toad

2010 - 2012 Biology Summary

Walleye spawning surveys

- 36 angling stations
- 173 egg mats sets
- 33 Gill nets sets
- 3 Fyke Nets sets
- 3 Trap Net sets
- 4 Spotlight surveys

Sturgeon spawning surveys

- 24 egg mats
- 14 XL multifilament gill net sets
- 9 Trot Lines

Summer fish community sampling

- 53 RIN net sets
- 20 minnow traps sets
- 9 electro-fishing stations
- 6 gill net Sets
- 5 trot line sets

- Fall sturgeon surveys
 - 49 XL multifilament gill net sets
 - 22 sturgeon PIT tagged
 - 22 sturgeon DNA samples
- Invertebrate sampling
 - 25 Hester-Dendy benthic sampling sites
- Invertebrates taxonomy
- Visual survey of aquatic habitat
- Methyl Mercury (fish tissue)
 - 60 Samples taken



2010 - 2012 Biology Summary con't

Vegetation community mapping

- 12 eco sites observed (ELC)
- 137 plant species

Breeding bird surveys

- 82 species observed
- 9 confirmed breeding
- 15 evidence of probable breeding
- 55 evidence of possible breeding
- 3 others observed

*** Incidental observations of all other wildlife, including mammals, reptiles, amphibians, butterflies & dragonflies

Herpetofauna

- 1 species of snake
- 4 species of frogs
- 1 species of salamander

Mammals

- 23 species identified as potentially present
- 13 species observed

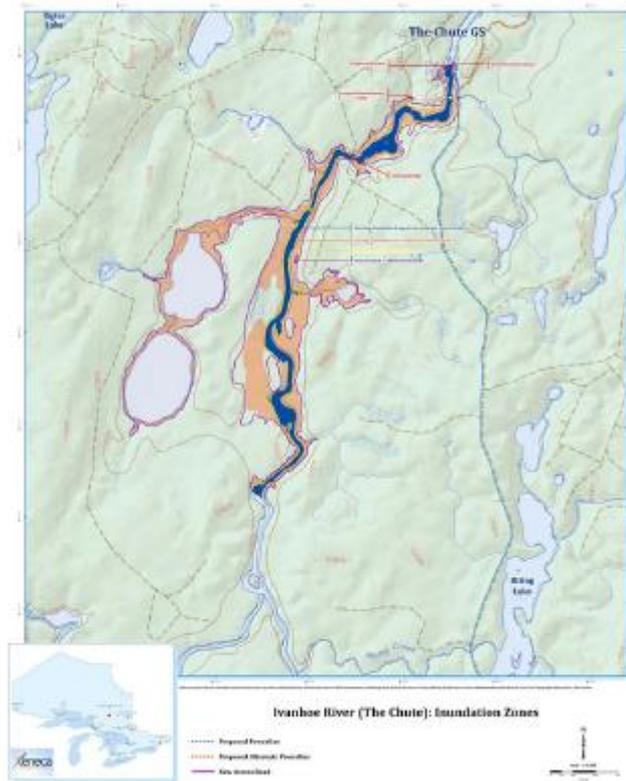


Northern Spring Peeper



Zone of Influence upstream

Upstream Headpond – The Chute



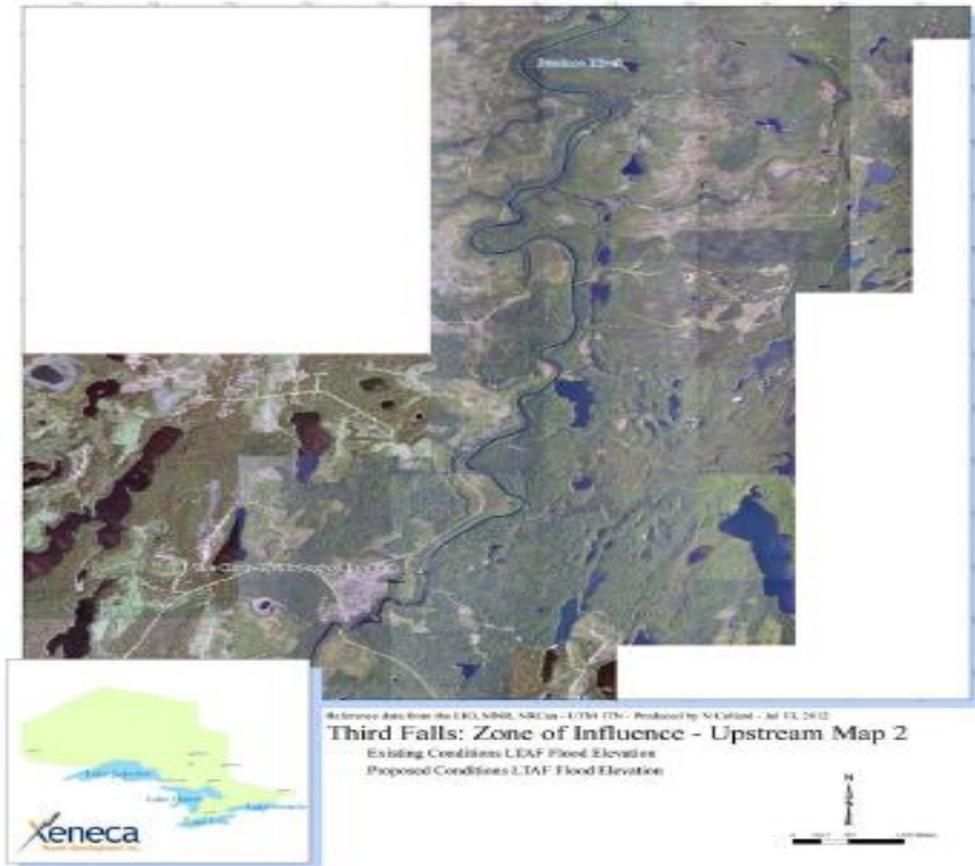
Third Falls: Upstream Headpond (1 of 2)





Zone of Influence upstream

Third Falls: Upstream Headpond (2 of 2)

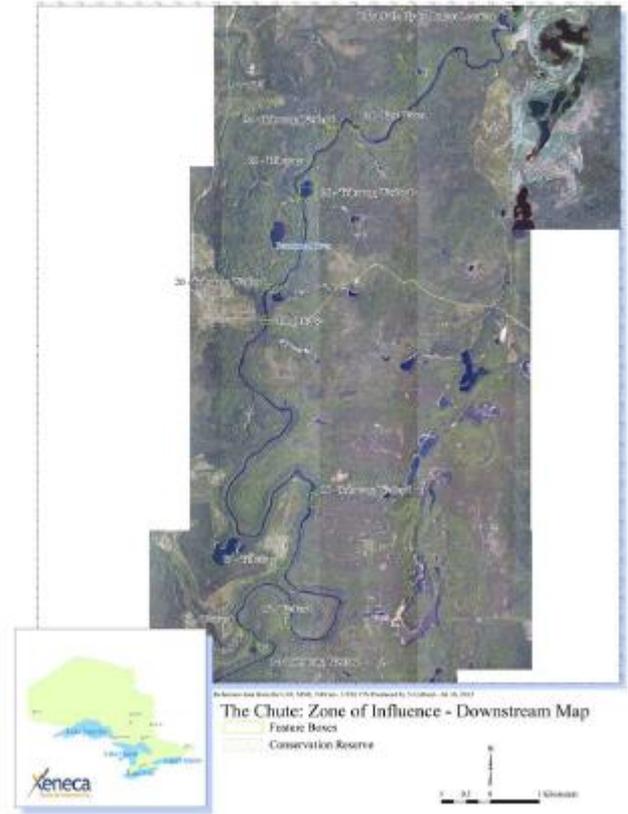
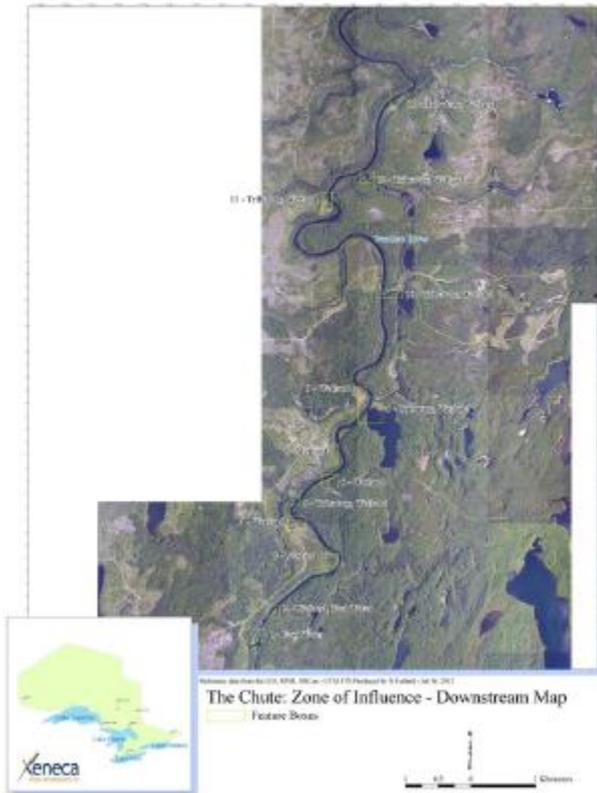




Zone of Influence downstream

The Chute: Downstream Zone of Influence & Features (2 of 2)

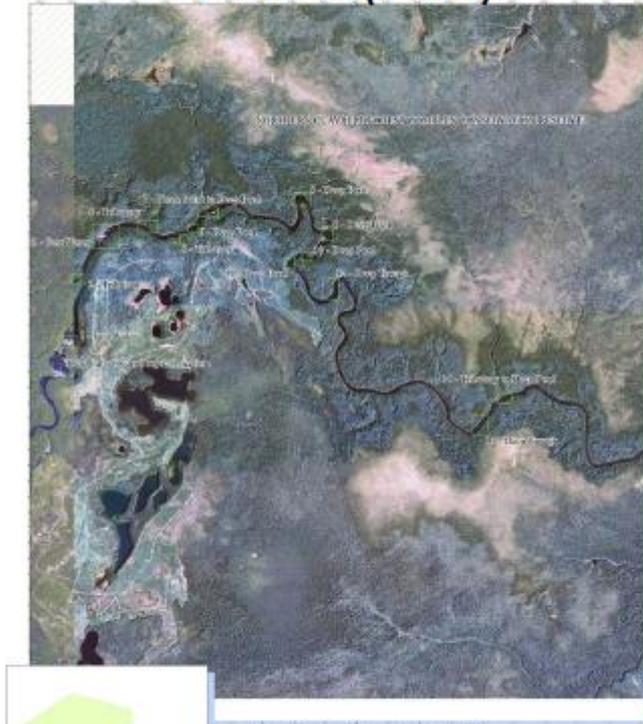
The Chute: Downstream Zone of Influence & Features (1 of 2)





Zone of Influence downstream

Third Falls: Downstream Zone of Influence & Features (1 of 2)



Third Falls: Zone of Influence - Downstream Map
Feature Boxes
Conservation Reserve

Third Falls: Downstream Zone of Influence & Features (2 of 2)



Third Falls: Zone of Influence - Downstream Map
Feature Boxes
Conservation Reserve





Zone of Influence downstream

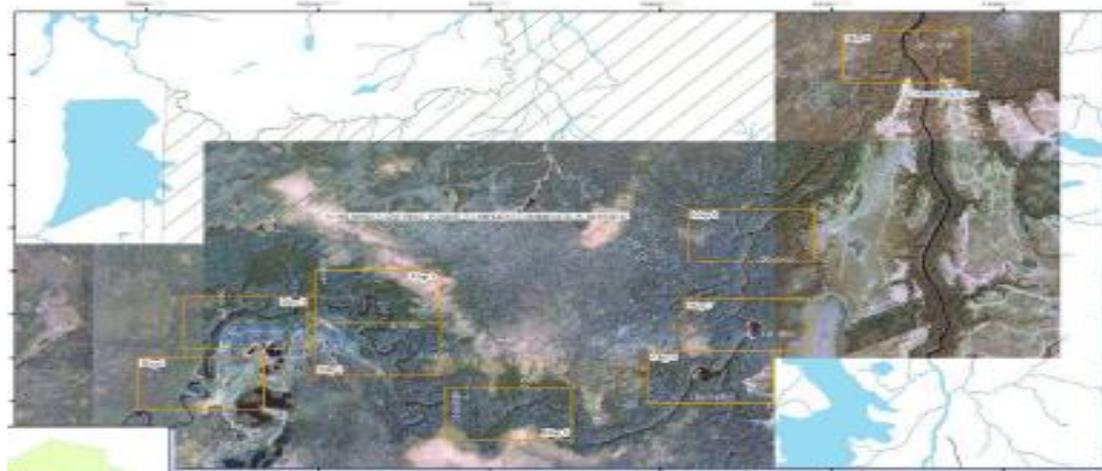
Downstream Features – The Chute





Zone of Influence downstream

Downstream Features – Third Falls



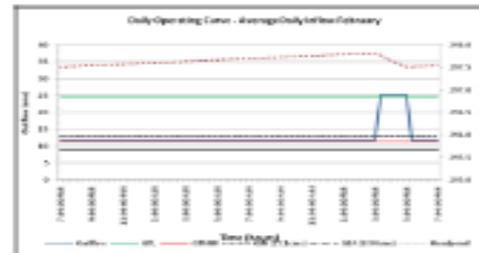


Typical Monthly Operations, Flows & Water Level Charts – The Chute

The charts are based on the PROPOSED Dam Operating Plan (DOP.) These numbers may change pending the outcome of discussions with regulatory agencies & stakeholders.

Legend

- Outflow – Flow through turbine
- QTL – Limited turbine flow (65% of turbine design flow)
- QTMIN – Minimum turbine flow (30% of turbine design flow)
- QEA – Environmental Flow
- QIN – Natural Flow





Update on 2011/2012 Hydraulics

- Developed operating scenarios on a monthly basis
- Bathymetry depth studies in key areas to compliment 2010 data
- Steady state hydraulic modeling to calculate velocities, wetted perimeter and water depth at various flows
- Unsteady state hydraulic modeling to calculate water level fluctuations associated with operations
- Operations Plan updated draft to include spawning and other restrictions





Update on 2011/2012 Water Quality

- Coordinated with MOE on new permit to take water (PTTW)
- Developed an ongoing water quality monitoring program (location/ sampling frequency and parameters)
- First round of data collection in 2012
- Water quality information will be combined with downstream hydraulic modeling to better inform the PTTW process (Post EA)





Possible Mitigation Options & Strategies

- Special operations restrictions:
 - for walleye spawning at the Chute
 - downstream in Conservation Reserve





Agency Concerns

- Out of all of the information received what are the issues remaining to be addressed?





Thank you!



Ivanhoe Projects - Agency Meeting
March 1, 2013

Attending:

Paul Bernier (PB)
Rich Pyrcce (RP)
Tim Mutter (TM)
Kris Vascotto (CV)
Sandra Dosser (SD)
Christine Greenaway (CG)
Laurie Brownlee (LB)
Sajjad Khan (SK)
Bill Cirrins (BC)

Uwe Roeper (UR)
Mark Holmes (MH)
Grace Yu (GY)
Ciara DeJong (CDJ)
Dave Green (DG)
Kai Markvorsen (KM)
Vanesa Enskaitis (VE)

Introductions

Minimum flows and downstream water level fluctuations:

The Chute:

UR noted Operating Plan has not changed since last meeting in August 16, 2012.

CV said MNR's main concern is loss of fast water features flooded out by Third Fall head pond. Want to see fast water habitat remaining in The Chute tailrace perpetuated by maintaining wetted width in the bypass channel.

DG explained that the level of operational constraint and run of river operations during spawn are preserving a significant portion of the habitat in the Chute tailrace and in both the east and west channels. Some discussion on how to divide flows between the two channels should occur.

DG advised that field studies have looked at effects in all seasons and factored in changes in water velocity and depths.

Habitat compensation at the Chute and at bridges where natural features create pinch points is being considered.

Xeneca has calculated areas of habitat loss / gain. Where the right conditions of velocity, substrate and depth might still exist are being identified. It is recognized that substantial compensation work will be required but it must also be assessed if attempts to provide compensation may have negative effects outweighing benefit.

CV advised that a compensation plan and mitigation efforts must be included in the EA.

DG said there is need to release his impact assessment for CV to review. There are 11 areas of compensation to be explored. However, although the Report has been reviewed and recent changes incorporated, there are still some issues to be resolved regarding roads and tributaries.

CV noted Xeneca's maximum turbine flow of 30 cms during low flow periods. He expressed concern about erosion and the need for a monitoring plan and an adaptive management approach if problems are arising.

LB said MOE is concerned about an adaptive management approach for EA. Areas of impact and effects need to be identified.

CV raised concern about spawning flows, noting flow is critical as an attractant to potential spawners as well as for staging, egg laying, incubation, hatch and dispersal. He does not expect flows to be an issue during high or average flow years, but problematic during low flow years.

UR suggested a minimum spillway flow.

CV and TM said MNR needs to know what a proposed minimum will look like in the river (modeling) as well as rationalized on net effects and a post construction monitoring plan.

The optimal outcome is a plan that will emulate ideal spawning conditions year to year.

ACTION: Send out effects report with short write up with spawning table for flows and rationalized approach for minimum flows using various flow scenarios (Dave Green/ Scott Manser)

Third Falls:

NP responded to questions from CG noting that studies of fast water features downstream of Third Fall were conducted as well as measurements at the confluence with Groundhog River. He concluded there is enough information to determine downstream effects of the Third Fall GS.

UR noted that previously agreed minimum flows appear to have been rejected by MNR and what is being asked for now is far more operationally restrictive than the Q80 base flow that was requested by MNR for the previous two years.

ACTION: NP to send Coldwater report to Rich Pyrcce

ACTION: NP to send updated inundation mapping to Tim Mutter and Kris Vascotto.

With respect to minimum flows downstream of Third Falls, TM said flows inside the Conservation Reserve are under review by MNR policy division and direction will be provided. He explained that, as a result of being inside a CR, a much higher standard of ecological study and restraint will be required to meet an objective of maintaining ecological integrity: a condition in which the abundance of native species and communities and eco system processes are unimpeded.

SD added that, within a CR, MNR will seek to either avoid or reduce impacts and that Xeneca should plan to maintain natural daily flow regimes.

UR explained Operation of the facility is daily. During both spring and fall spawn the GS is run of river.

TM noted Hydraulic work shows water level fluctuation during intermittent operation is significant (50 cm at base of the tailrace area.

UR explained that Xeneca undertook an options analysis to determine how much water level fluctuation could be reduced by managing turbine output. Five options were put forward to the MNR and had options reducing fluctuations to about 20 cm during a worst case scenario.

DG said an effects report for downstream of Third Fall is being prepared. Sturgeon studies to confluence with the Groundhog R. have been done. Reports will speak to change in benthic community and fast water features, VECs and risks of fish stranding. He acknowledged there may be some subtle changes to the benthic community.

ACTION: DG to circulate effects report at earliest possible juncture to MNR

Of the five operational options being presented, Xeneca has picked the second most restrictive which would create a 40 cm (plus/minus 20 cm) water level change downstream.

BC says in clay belt areas such as Third Fall, wetting and drying of riverbanks can cause erosion as well as changes in Co2 loading in peat areas.

ACTION: SD to take to MNR Policy Division the Xeneca operations report June 23, 2012 as well as:

- **October CPL reports**
- **Dave Green's effects report**
- **Geomorphology report**
- **Comments from Chapleau District**

MH suggested that reviewers narrow the scope of assessment down to the months during which intermittent operation is expected to occur and to merge the information with a monitoring plan to verify expected outcomes.

UR said that, although it would be difficult operationally, Xeneca could live with the most restrictive operating regime (limits to 15 cm fluctuation) but economics of the project would be jeopardized with strict run of river.

Commitment: Subsequent to the March 1, 2013 meeting, Xeneca has committed to running Third Fall GS under a run of river regime. However, Xeneca reserves the right to conduct further studies and if it is shown impacts to ecological integrity are not substantial, application may be made to ease operating restrictions.

Downstream Zone of Influence:

UR said Xeneca initially proposed a short DZOI, and, upon MNR request, Xeneca undertook substantively more downstream work with hydraulic studies going to the confluence of the Groundhog River.

The Metcalfe approach to determining the extent of DZOI is not yet finalized.

SD said MNR is currently crafting a note with input from MOE to provide guidance on using the Metcalfe approach to determining extent of DZOI.

SD added that Chapleau District has no specific concerns, but Parks Ontario will need to be consulted.

Sediment and Erosion:

RP has consulted with Parish Geomorphology. He noted the report uses river transects at Chutes and Third Falls head ponds and he agrees the areas are in regime. However, there are sections of in between where potential infilling may exist. He cited no major concerns with the report noting he is not as concerned about erosion on the Ivanhoe as he is on some of the other rivers in Claybelt areas. He observed that, at height of spring freshet, there is no evidence of significant sedimentation.

TM expressed concern that the Parish Report did not study far enough. He said the peak of water fluctuation occurs 3 km downstream and study only goes 1.3 km downstream. Further, he said some of the statements in the report are based on assumptions, and it is his conclusion that under LRIA there is no legal right to erode within CR.

ACTION: Tim/ Kris/Rich to consolidate their comments and provide to Xeneca for discussion with Parrish in order to address issues raised regarding potential Chute and Third Fall erosion and downstream effects the in CR.

Power line Planning

UR noted comments (i.e. proximity to remote tourism values) on line routing have been provided by MNR as part of a coarse review. Using MNR and SFL data, LiDar and other available resources KBM is undertaking a habitat value assessment which will be followed by an in-field assessment of any identified values.

TM said MNR needs to know what power line corridors will look like with exact dimensions and if they will they be associated with roads, water crossings, culverts, bridging, etc.

With respect to the power line crossing Groundhog R. and park land Xeneca was referred to Parks Ontario staff for more detailed information on permitting requirements.

ACTION: Xeneca to follow up with MNR to advise them of scoping of work for power line corridor assessment to ensure it is consistent with their requirements.

ACTION: Xeneca to contact MTO re: right of way in proximity to the crossing at the Groundhog River Park buffer area

ACTION: Contact Parks Ontario for input on what is required to attain permit for power line transecting park land.

Roads assessment:

MOE is indicating that roads environmental and archeological field assessment needs to be in the EA.

MOE and MNR are not supporting Xeneca in approach to roads.

Xeneca is under enormous time line pressures and wants to work with MOE to break roads out of EA and do them under an alternative process.

Xeneca's desire is to get through EA because it is expected opponents to waterpower projects will file elevation requests that are time consuming. Roads are not expected to be a major issue for the public.

Xeneca intends to do road work at the same time as power line work is done in MNR's Stewardship EA.

ACTION: Xeneca to review Mining Rights withdrawal required on all areas of inundation and downstream zone of influence as well as power lines and roads and provide information to Chapleau MNR so it can be withdrawn.

LB advised Xeneca to be careful not to scope too narrowly on roads and lines. There is need to address all of comments issued by MOE and MNR when issuing the new ER.

Brook trout:

CV acknowledged the Shawmere River is outside zone of influence of Xeneca's projects on the Ivanhoe River.

DG noted that, between the Chute and Third Fall, brook trout were incidentally found, but it is not known where they are coming from because the main river stem is not suitable habitat. It is believed there is suitable habitat in tributaries and the trout are moving from tributaries into the Ivanhoe.

The meeting heard there is need to assess inundation areas within these tributaries to identify any suitable brook trout habitat that may be affected. CV was concerned that, if more of water is in the tributaries, it may affect the ability to sustain brook trout.

DG said studies of the affected tributaries have occurred but refined mapping work revealed some upper limits of inundation went further than first thought. There are two primary questions to be resolved; why are trout in the main river stem and what changes will the projects create in tributaries i.e. thermal, spawning areas, etc. It was noted that Xeneca has already committed to operational constraints during fall brook trout spawning.

Originally Xeneca proposed a monitoring plan prior to construction to look at spawning and it is expected monitoring will continue after construction. Mapping will be provided to MNR to identify areas that are impacted.

It must also be determined what is required for EA.

Studies that help identify what will happen to adult brook trout in spring are not likely required since no significant changes will occur during seasonal high water periods.

Summer low flow issue may be a potential change from cold water habitat to cool or warm water habitat

Fall spawning impacts are also of concern as there could be effect on the reds.

Winter concern lies around water level changes that affect reds.

UR pointed out that, even with operation of Third Fall GS, the head pond and water levels in the tributaries will remain fairly steady.

DG observed that, if there is some alteration of habitat, it may raise the issue of habitat compensation.

CV said that it would appear there is not enough information on tributary effect for an EA and that mitigation efforts and pre- and post-construction monitoring may be required. If negative effects are found to be occurring, compensation will have to occur

ACTION: Send inundation mapping to CV. CV to discuss with DFO.

NOTES OF MEETING

August 16, 2012

PROJECT The Chute and Third Falls Proposed Projects on the Ivanhoe River
LOCATION MNR Chapleau District Office

Participants:

Bill Guthrie (BG) MNR	Dave Green (DG) NRSI
Tim Mutter (TM) MNR	Tami Sugarman (TS) OEL
Kris Vascotto (KV) MNR	Muriel Kim (MK) OEL
Christine Greenaway (CG) MNR	Kai Markvorsen (KM) OEL
Carla Riche (CR) MNR	Uwe Roeper (UR) XENECA
Mike Bernier (MB) MNR	Mark Holmes (MH) XENECA
Mohammad Sajjad Khan (MSK) MOE	Edmond Laratta (EL) XENECA
Ed Snucins (ES) MOE	Nava Pokharel (NP) XENECA
Laurie Brownlee (LB) MOE	Grace Yu (GY) XENECA
Connie Smith (CS) DFO	

PURPOSE

- Xeneca to update on status of the studies and EA progress
- Identify key issues of concern for agencies
- Discuss possible mitigation options and approaches

	Items and Actions
1.	EA status update presentation by Xeneca (MH)
2.	<p>Distribution Line</p> <p>MNR recommends that transmission line assessment and consultation be coordinated with waterpower EA.</p> <p>MH - The Resource Stewardship EA does not apply but Xeneca is working to refine the routes and lines. They are planned to avoid sensitive areas and water crossings where possible. Some areas where there is potential for SAR will be identified in conjunction with MNR. Permitting and ground-truthing surveys will be done in these areas in Spring/Summer 2013.</p> <p>(The current refined routes are included in the OWA Class EA as status reports prepared for Xeneca by KBM and NBS. In most cases, multiple routes are being considered for development and these are presented in the KBM/NBS reports provided in the Class EA.)</p> <p>MNR Suggested planning a “corridor” as opposed to a single line. Corridor planning (ie. 300m wide) allows for minor variances in the line routing due to unexpected terrain or otherwise. This may avoid future environmental planning or requirement for additional permits and</p>

	<p>approvals if minor line re-routing becomes necessary.</p> <p>TM mentioned that the (March) report from KBM shows the transmission line overlapping some conservation reserves and potentially one park. TM mentioned that there are certain approval processes for transmission corridors in protected areas. This was outlined in the MNR's comments on Xeneca's ER for the Chute project.</p> <p>MH - Our route planning process is intended to avoid such areas; the current routes will be presented to MNR over the upcoming weeks and are included in the Draft EAs.</p> <p>- Need regional review with Xeneca/KBM in next 2 weeks before district meeting.</p> <p>UR believed they should work out the scope of work at these meetings as well.</p> <p>Action: Route Planning should be arranged for Sept/Oct. 2012 with MNR Regional Office and then follow up discussions with each District. (For Chapleau: with Paula at MOE and Tim / Kris at MNR and to go over routing plans and approvals process).</p>
3.	<p>Public / FN consultation review</p> <p>1) MNR concerned about whether another PIC held in Timmins as well and the ZOI clearly shown to the confluence of Groundhog River.</p> <p>MH - No PIC in Timmins. Timmins people came to Foleyet. Advertisement was put in Timmins. Yes, the ZOI showed to Groundhog River.</p> <p>2) MNR - The Crown's duty to consult with Aboriginal communities has a high rigor of test. MNR is responsible for Aboriginal consultation where MNR-administered permits and approvals may be issued. Some procedural aspects of undertaking consultation may be delegated to the proponent. On-going discussions are occurring with regional MNR staff and Xeneca with respect to developing FN consultation protocols/templates.</p> <p>Action: Arnold to provide MOE and MNR a progress statement on this matter.</p> <p>3) LB - Xeneca needs to go through what crown requirements are. MOE has let Arnold and Dean know the Crown's requirements.</p> <p>4) MNR - how does the Operation Plan we were given compare with PIC presentation? UR - Almost the same. We did expand panels from last PIC to better express what was done in the interim.</p> <p>5) MNR - Did the PIC show complete picture of studies in 2012 including results? DG - PIC was end of July 2012, included studies in early 2012, and an overview of what planned and what was completed.</p> <p>6) CG Asked MOE, is it typical for impact assessment to not be presented at the PIC, but instead refer public to the ER? It would be best to show and discuss what the known effects are. LB - As long as impacts are identified at PIC then detail can be in report. TM - PIC would be vehicle to adequately address public concerns. Risk to not addressing concerns in advance of ER submission is increased likelihood of a Part II Order request.</p>

7) MNR - Can you change the PD so that it combines both projects without an additional Notice of Commencement?

MH - The original PD contained both.

LB - Is there a second notice of commencement for combining two sites?

UR - Xeneca to make sure that the notice of commencement for combining both sites fulfilled.

Action: Mark/Tami to follow up with MOE re requirement for public notice of recombined Chute and Third Falls.

(The NoCs, issued in 2010, were for both projects.)

4.

Hydrology modeling

MH - We're proposing modified run-of-river operations at The Chute; for Third Falls, we're proposing modified run-of-river operations if it is located outside the park, or run-of-river if it is inside the park.

- The headpond of The Chute will have an elevation of 298 msl, and will extend 6.4 km upstream.

UR- The total surface area of the headpond at The Chute is small (20 ha of new inundation, much of which will occur in the last 2 km where the water will spill over the banks).

- Committing to releasing the same volume of water over the course of 24 hours as would occur under natural conditions.

MH - Will operate as a run-of-river facility during spring spawning.

1) MNR recalled previous concerns about the input for model data, how have they been addressed?

UR - Two hydrology reports. One done by Hatch, one done by CPL. The second confirmed the results of the first.

2) MNR concerned 10 years' data is limited. Now have real time flow data to calibrate the 10 year gauge data.

UR - CPL looked at this new data. We believe the hydrology work was done pretty extensively.

NP - Two water level loggers were installed at The Chute and one at Third Falls.

3) MNR- Initial modeling review focused on The Chute only and that benefited on upstream work of Third Falls. When you combine the projects, do you have gauge downstream of Third Falls?

NP - Cannot provide the data type you need. For unsteady data, calibration can only be done after operation. Can do this type of calibration after the dam is built.

MSK- Calibration was done for 46km. Since Third Falls is on the same river, no additional calibration is required for downstream of Third Falls to Groundhog River.

4) 25km downstream of Third Falls to Groundhog River, there are 3-4 fast water features with 3-4 m height. These fast water features are not incorporated into model.
MNR Concerned about the accuracy of the Hec-Ras modeling which does not seem to take into account for these features in CR area.
MNR – Failure of acceptable modeling makes any assessment of environmental impact in CR impossible. Modeling must be to OMNR standards to determine impacts. Fast water features key to functionality of river and ecological integrity. As presented HEC-RAS modeling suggests daily fluctuations circa 50cm 10-15km downstream of 3rd falls within CR. This will clearly impact tributaries, fast water features and associated values. One possible method of mitigation is to reduce daily fluctuations through operational modification (run longer, lower). In addition sensitivity analysis is still missing.
UR - We received these comments from MNR/Christine. We discussed the sensitivity and uncertainties of the model. We reported to Christine that Xeneca commits to a have the consultant include a discussion of model uncertainty and limitations in each report and to consider what work-up can be done on sensitivity (typically this is limited to the roughness assumption in the model). Xeneca also commits to a model verification exercise at commissioning to ensure that the operation does not cause level fluctuations that are greater than those agreed to in the operations plan.
- Xeneca believes that the focus of the discussions should be the environmental impacts on fast water features, not modeling limitation.
MNR – Agreed, but an idea of impact on features required to determine environmental impacts for any data gaps.

5) CG- noted that initial comment response on hydraulic modeling was for the Chutes only. Concerned additional information would be required for different sites.
UR- acknowledged that the limitations of the model relate to the amount of input data, which varies from one site to another. However, the verification at commissioning will provides assurance that the model is only used as an estimation of impact and not as the compliance criteria.
NP - We had a meeting with Sajjad and Brian. It was agreed the model data are accurate for Hec-Ras modeling. Agreed to use Marter as a pilot site to collect data for calibration for all sites.
CG – noted that she doesn't think it was agreed that additional bathymetry work at Marter would replace need for calibration at other sites.
MSK - For Third Falls in CR, there is a need of additional bathymetry for that area, but no calibration is required.
NP - If necessary, we will do so and collect data.
CG - Two reasons: to find pinch control points to calibrate the model; and for assisting biological assessment.

6) CG - What kind of transects work done downstream in CR?
UR - Only biology assessment and some depth information. We would adjust the OP to mitigate the effects rather than spend next year to study.
CG - We need description of uncertainty with Hec-Ras modeling output to be more detailed to give us some level of accuracy and confidence if it is to be used to inform impact assessment.
UR - The models go a long way in providing a general understanding of how the rivers

function hydraulically and serve to inform the discussion. However, regardless of the level fluctuation in the model, Xeneca commits that at the Groundhog River, the level fluctuation won't be more than +/- 5 cm (The operating band at confluence would be 11cm). We are assuming that walleye are spawning at all fast water locations and will provide run-of-river flows during such times, so that no model info is required to assess spawning impacts. KV – Without good modeling, very difficult to assess impacts. Ecological integrity, BT and sturgeon life cycle concerns are not addressed by this commitment.

DG - Do we have cross section information on feature 1.7 km downstream of Third Falls? We have not collected data. It needs to be a surveyed cross section.

NP - No, we can go back to model to see minimum flow at that feature, if Q80 base flows on that rapid is always sufficient.

MNR- it is not always base flow, but the fluctuation of water across that feature that may impact ecological integrity. Fast water features provide good baseline points for compliance monitoring.

MNR – When assessing impacts of proposed alterations in CR need to consider ecological integrity. Benthic communities that will be affected by fluctuating shoreline. Associated vegetation changes. Wetland changes. Tributary changes and the potential for waves in and out to contribute to stranding. Would be in your best interest to understand what effects will be in CR if you are proposing to peak.

Action: Operation of Third Falls: Nava to have ORTECH prepare alternative operating scenario that would reduce river level fluctuations in CR and run matching hydraulic model.

7) KV- Reports suggest fast water high value habitat features upstream of Third Falls that likely support spawning and act as key habitat features for the river. Is it possible to describe daily fluctuations resulting from peaking operations? Any bathymetry results for impact assessment? Walleye – spawning habitat areas recently identified and no discussion of impacts of inundation/peaking on functionality or contribution to standing population. If functionality is lost, compensation is required. Impossible to do without knowing initial state. In addition, impacts to spawning sites around CR boundary around 3rd falls unknown, as timing was missed in past field seasons. Need to know pre-construction for any compensation/replacement. We need decision tree – what will Xeneca do, how will they compensate, what do if compensation fails, etc.

NP - Can collect additional data for features interested.

Action: Dave and Kris to figure out which features are concerned and what required for modeling and Xeneca to provide analysis.

8) CG - Is the new OP strategy makes these new Hec-Ras documents output change?

UR - The OP was based on Q80 monthly flow from last year.

KV - Operating plan based on sustained monthly Q80 flow immediately below 3rd falls facility?

NP - Yes, Hec-Ras and Operating Plan are consistent. The HEC-RAS will be re-run after the change to the Operating Plan is made to confirm that we can reduce the level fluctuations in

that way.
KV –HEC-RAS modeling based on flows that are not in the operations plan provided to OMNR in advance of this meeting. HEC-RAS modeling as presented is insufficient to determine impacts on CR as proposed flows do not match modeled plan. Xeneca committed to sustained monthly Q80 flow immediately downstream of 3rd falls facility. Because modeling is done with different flows, modeling likely invalid and impacts to features cannot be determined.

Action: Nava to double check Q80 monthly or seasonally in OP to KV.

5. **Tributary impacts**

MNR concerned there is insufficient understanding in tributary areas to determine impacts.

DG- There are 3-4 tributaries in downstream CR area that we have reconnaissance on.
MNR- Many more tributaries than presented on key features map. No inundation into tribs presented – how will impacts be determine if no info collected? NRSI detected Brook trout in tribs of 3rd falls headpond and within the mainstem of the river within the CR. MNR has repeatedly stated the presence of BT in the system – this is a data gap. Why was effort on tribs in Chutes headpond rigorous but minimal effort on 3rd falls/CR – no electrofishing, etc.

KV- What will happen to the Brook Trout in tributaries and main stem? Tributaries surveyed had substantial coldwater (groundwater) inputs and BT detected in mainstem directly below 3rd falls. The proposed operation and inundation for 3rd falls (~3-4m) may render these habitats unusable. Daily peaking could also greatly impact key habitat. For cold water species, you need groundwater or thermal refuge. 15 cm fluctuation derived from Hec-Ras modeling would be a concern.

Action: Tributary impacts: Nava to work with CPL to create water surface profile (pre/post) for each tributary.

(Water surface profile for tributaries was completed and provided to NRSI.)

Brook Trout/biology studies for CR

KV – asked if there is sufficient info for CR to discuss everything that might be impacted. Can a conclusion be made about the impacts to ecological integrity? Do we know enough about what's there to understand what a 60 cm fluctuation will mean?

DG – Of all the areas we've looked at CR portion is probably the weakest due to evolution of project. Distributions survey at downstream does lack the features that would be of concern. However sturgeon work was conducted all the way to Groundhog River which provides some information.

KV – Brook Trout were not targeted in CR so information is lacking.

KV – Whitefish?

DG – Limited understanding of where they could be but found in headpond.

DG – Detailed fisheries assessment is missing. Explained evolution of d/s ZOI from 500m in 2010 to Ground Hog River in 2012.

	<p>KV – Need to make sure we have enough information to support decisions and ensure the maintenance of ecological integrity. And as discussed before, RoR would address that.</p> <p>TM – Need to look a bit beyond fish and consider benthos, sediment, thermal regime.</p> <p>MSK – Understanding that bios are interested in impacts in CR, don't see why it would be an issue to collect additional bathymetry. Just need the transects for impact assessment, not calibration.</p> <p>UR - Can we design follow up study work that will address the MNR questions while not hindering the EA process? Could this be done as a mitigation plan in the EA? Can we use adaptive management by including an operation restriction table for Brook Trout until we know if they spawn or not spawn in the main stem river downstream of Third Falls.</p> <p>KV – Yes. NRSI has said BT are there. Thermal conditions are adequate. Impacts of operations on tributaries (i.e., water, dewatering) has not been described. Thus OMNR cannot comment on acceptability. At minimum, any data collection program should include a decision tree to describe how operation of the facility will be modified if BT redds or key habitat is impacted by proposed operations in mainstem or tributaries.</p> <p>MSK – Say you are proposing a minimum flow, you would need observed bathymetry to understand conditions under each flow. You only have assumed cross-sections for that stretch of river. To resolve issue, collect a few transects at desired locations and rerun model.</p> <p>UR- asked where these transects might be most useful.</p> <p>DG – Additional bathymetry will be bridge between model output and what is actually there.</p> <p>MSK – Action item that you may have to collect additional bathymetry. But do not require further calibration if using similar parameters from first 40 km.</p> <p>CG – Timing is right to get bathymetry work done this year.</p> <p>UR – Could also use that bathymetry work to confirm conclusions made from impact assessment to date.</p> <p>Action: Dave Green to follow up with MNR on data adequacy questions regarding Biology/Brook Trout Work.</p>
6.	<p>UR - It was noted that the Third Falls headpond is largely contained in the existing river bed for most of its length. The associated depth change in the channel is about 1metre and comes in at roughly the high water mark on the channel banks.</p> <ul style="list-style-type: none"> - New terrestrial inundation happens only in the last 2 km before the dam, where the inundation causes 3-4 m of water depth which overtops the river banks in those areas. -Most significant change in water level occurs in the Chute headpond at low flow times of the year when the facility needs to be turned on and off (Feb/August). The level change in the Third Falls headpond is less than 0.3 metres for both the in-CR and out-of-CR options. This is because the Third Falls headpond is 3 times larger in area than the headpond at the Chute site. <p>MNR – inundation of tribs must be described to validate this.</p>
	(Lunch break to 1:00pm)
7.	<p>DG introduced studies for both sites.</p> <ul style="list-style-type: none"> -Lake Sturgeon is known below Third Falls, but whether they present upstream is a

	<p>question.-- 22 sturgeons were caught in Groundhog River downstream of Third Falls.</p> <ul style="list-style-type: none"> - Two barriers exist for Sturgeon passage. The second one is 3-4 m vertical. - Brook Trout only detected in tributaries and in one spot on Ivanhoe at the feature 2 km downstream of Third Falls. <p>KV – Xeneca has not “looked” for brook trout despite detections. Very difficult to assess distribution of brook trout. 2012 field season and site reconnaissance showed walleye spawning habitat at various points throughout headpond. This information suggests serious data gaps that must be addressed in the CR. If unknown, a data gathering plan and proposed mitigation (decision tree) to support how operations will be altered should be in the EA to fill this oversight.</p> <p>MNR – Do need to do an assessment of impacts to wetlands.</p> <p>CG – turtles and nesting waterfowl, impacts due to fluctuations?</p> <p>KV – Black fun cisco confirmed (fall spawner). Considered extirpated in Ontario. Need to understand habitat requirements and changes to habitat suitability because subject to the LRIA.</p>
8.	<p>Erosion on system</p> <p>MNR noted that the Ivanhoe River has existing erosion problems upstream and may have serious potential for accelerated erosion along the downstream reaches. The river has a fine clay/sand substrate and the banks may slump and erode further under frequent level/flow changes. Xeneca will need to demonstrate how it has considered/ investigated erosion potential. Xeneca will also need to demonstrate that no unnatural erosion or deposition is being caused within the downstream conservation reserve by hydro facility operations (legal prohibitions). Xeneca will also need to show how they plan to monitor river morphology in order to understand if additional erosion is occurring and how they plan to address any adverse affects that may become observable.</p> <p>MNR concerned of cumulative effects of existing erosional forces combined with the effects of a modified peaking plant. MNR must be assured that there won’t be any accelerated erosion or deposition caused in the CR.</p> <p>UR - The Hec-Ras modeling provides velocity values at various flows which is proportional to erosional energy of the flows. The modeling shows that modified operation will occur at moderate flows, causing velocities that are in the moderate range and have moderate erosional energy level. In addition, the channel morphology between The Chute and Third Falls is very flat for 30 km. The channel appears fully developed and neither erosional nor depositional. Without a bid level drop over that distance, there appears to be little risk of erosion due to the modest level and flow changes associated with modified operation (i.e. Changes in water level are pretty small).</p> <p>Action: Erosion/Sediment transport DS of Third Falls: Nava to put Geomorphology consultant (Parish) in contact with MNR (Rich Pyrcce, Tim Mutters) to better understand MNR concern and plan on how to address it. Nava to facilitate the discussion.</p> <p>(Parish has been in contact with Rich to discuss this issue.)</p>

9.

In-CR EA

KV – Haven't seen what walleye are where downstream of Third Falls. There is at least one other potential spawning area that has not been explored. This is a data gap flagged last spring. Identified potential spawning habitat throughout 44 km stretch, but don't know about habitat use to inform "what is lost".

DFO concerned on the habitat maps. Do not know what habitats are being used, what will be impacted, lost or for compensation.

CG – Asked DFO how it usually deals with these situations.

CS – If there are big info gaps just going to be more conservative in our discussion of operating plan. If fill info gaps, have more flexibility.

Action: Dave/Kris/Connie to come back with recommendation.

CG - MNR accepts that ZOI, at minimum, will extend to the confluence of Groundhog River. Want to know what issues being solved.

UR - We did exactly what we agreed last year. What we want to do is to adjust OP for mitigation. The projects are tiny compared to Lower Mattagami, which is 100 times larger. Only one year of study is contemplated under the water power class EA, and Xeneca has now done three years. As a small project developer, it has been a big effort and we need to bring it to a close and Xeneca is under a lot of pressure to meet the contractual deadlines under the FIT contracts.

CG – noted that it highlights the importance of coming to consensus on anticipated ZOI early in process (wrt one year of data collection contemplated in EA)

MNR agreed the proponent facing pressure. The fact that there is a CR makes it more difficult. MNR also faces pressure to make balanced/ informed resource management decisions and to mitigate anticipated negative effects to the greatest extent possible.

MNR mentioned that the deregulation process for the "in the CR option" may be two years or more.

TM - Suggested going back to EA Coordination meetings where these questions were identified early in the process.

UR-Thinking the process, it was well defined. What are values in CR?

MNR - Everything. MNR must ensure ecological integrity within protected areas. The PPCR Act defines "ecological integrity."

UR- Will try to limit ramp rate and day versus night variance in order to minimize impacts.

UR stated that Xeneca prefers to have Third Falls in-CR, but will proceed on outside of CR option if needed.

For both the in-CR option and out-of-CR option, the dam will be out of CR for both options, with the powerhouse location differing in two options only.

Action:

- 1) **In-CR EA: Arnold to file application for in-CR process to start outlining clearly what is proposed and benefits (eg. ROR downstream).**

(Application for de-regulation was completed.)

	<p>2) In-CR tailrace: Nava, Uwe and Dave Green to review available data in tailrace area (for in-CR powerhouse location) to see if we have enough info to address CR deregulation EA.</p>
10.	<p>EA versus Post EA information</p> <p>MH thought that MNR’s comments should be carefully phrased so that comments related to future permitting and approval requirements don’t come across as weaknesses of the EA. LB noted that if something is going to be important, it still needs to be addressed or proposed in the EA. Even if technically it will be addressed during Post EA.</p> <p>UR argued that Class EA comes much earlier than Plan and Specs. Believed that this was an issue to be handled via operations mitigation of flows and levels, not by structure, and that it could be handled at the operation stage.</p> <p>KV – Purpose of EA is to understand what is there, what will happen and what will be left. If these questions cannot be answered in EA, then commitments to mitigations (decision tree) and monitoring plan must be included.</p> <p>MH – Asked if for EA purposes can we use the information we have now for EA and make a commitment to monitoring.</p> <p>CG – Clarified difference between impact assessment and mitigation effectiveness monitoring. MNR needs information to make decisions under LRIA, not sure if that type of impact assessment can occur post-EA. Requires additional discussion with MOE.</p> <p>UR – We’re not adverse to doing studies next year, but need solutions for completing EA in FIT timelines.</p>
11.	<p>MNR concerned about flows and levels downstream of Third Falls in CR.</p> <p>UR mentioned they committed to long term monitoring flow at Shawmere River confluence coming into project site and they can compare to what is coming out of Third Falls.</p> <p>MNR will require monitoring plan to ensure no impacts on Ecological Integrity and also a response (decision tree) will be needed if information is minimal.</p>
12.	<p>Temporary construction areas in CR</p> <p>UR – For out of CR option, it is struggling a bit with access to avoid CR for construction. The area is too tight and additional cost would be required for a temporary bridge.</p> <p>TM - It may be possible to allow ancillary structures creeping into CR. Will check on that and get back to Xeneca.</p> <p>Action: Tim Mutter to review options for roads in and out of conservation reserve. Mike V and Mark H to follow up with Tim in 2 weeks time.</p> <p>(Tim informed Xeneca a de-regulation application would be required for the temporary construction areas in CR.)</p> <p>UPDATE: Access roads and laydown area will not be in the CR for the out-of-park option.</p>
13.	<p>Flows at the two channels of The Chute.</p>

UR- For the Chute, preferred option is to put powerhouse on east side of island, to make sure enough flow going over spillway during spawning. Both channels at the Chute have spawning habitat, but the west one has more significant habitat. During spawning, flows need to go through the west channel. High flows will go through east channel, while low to medium flows will go through the west.

- Xeneca to work on determining what volume of water needs to be provided.

Action: Nava, Uwe and Dave Green to review hydraulic results and OP plan at The Chute spillway to discuss commitment in EA to maintain spawning beds.

Ivanhoe Projects - Agency Meeting
Action items and Commitments
March 1, 2013

ACTION: Send out effects report with short write up with spawning table for flows and rationalized approach for minimum flows using various flow scenarios (Dave Green/Scott Manser)

ACTION: NP to send Coldwater report to Rich Pyrcce

ACTION: NP to send updated inundation mapping to Tim Mutter and Kris Vascotto

ACTION: DG the circulate effects report at earliest possible juncture to MNR/MOE/DFO

ACTION: SD to take to MNR Policy Division Xeneca operations report June 23, 2012 as well as:

- October CPL reports
- Dave Green's effects report
- Geomorphology report
- Comments from Chapleau District

Commitment: Subsequent to the March 1, 2013 meeting, Xeneca has committed to running Third Falls GS under a run of river regime. However, Xeneca reserves the right to conduct further studies and if it is shown impacts to ecological integrity are not substantial, application may be made to ease operating restrictions.

ACTION: Tim/ Kris/Rich to consolidate their comments and provide to Xeneca for discussion with Parrish in order to address issues raised regarding potential Chute and Third Fall erosion and downstream effects the in CR

ACTION: Xeneca to follow up with MNR to advise them of scoping of work for power line corridor assessment to ensure it is consistent with their requirements

ACTION: Xeneca to contact MTO re: right of way in proximity to the crossing at the Groundhog River Park buffer area

ACTION: Contact Parks Ontario for input on what is required to attain permit for power line transecting park land

ACTION: Xeneca to review Mining Rights with drawl required on all areas of inundation and downstream zone of influence as well as power lines and roads. And provide information to Chapleau MNR so it can be withdrawn

ACTION: Send inundation mapping to CV. CV to discuss with DFO.

ACTION: NRSI to use more bathymetry to back up statements about impacts.

ACTION: NRSI to provide effects assessment at fluctuations at 15 cm (already assessed at 20 cm.)

ACTION: Additional meeting required for the Conservation Reserve discussion.

ACTION: Monitoring plan required to verify assumptions.

ACTION: Commitment to Brook Trout sampling program in tributaries.



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March 13, 2013

To : Tim Mutter
Kris Vascotto
Sandra Dossier
Christine Greenaway

Re: Third Falls (Ivanhoe River) Run-of-River Commitment

Subsequent to the March 1, 2013 meeting between Xeneca, MNR, MOE and DFO, Xeneca has committed to running Third Falls GS under a run-of-river regime. However, Xeneca reserves the right to conduct further studies, and, if it is shown impacts to ecological integrity in the downstream conservation reserve are not substantial, application may be made to ease operating restrictions.

Although there is substantive negative economic impact on the project as a result of this decision, Xeneca has weighed the options based on our March 1, 2013 discussions and the MNR's decision to change its position on accepting a minimum Q80 flow regime downstream of Third Falls.

To be clear, Xeneca is deeply concerned that lack of clarity and guidance in MNR regulation or policy will lead to the conclusion that any change to conditions in a conservation reserve will be denied. As such, there would unacceptable cost risk and time delay if anything but a run of river facility is contemplated in the OWA Waterpower Class EA for the Third Falls GS.

As MNR District and the North East Regional Office are aware, contractual obligations under the Ontario Power Authority's Feed-in-Tariff program are unlikely to be met. Fundamental changes to MNR/MOE policy have already been significant drivers of increased costs and delays an 18 to 24 month OWA Class EA approval process that is now expected to be well in excess of 36 months.

To await further MNR policy guidance and/or revision policy at this late juncture in the OWA Class EA approval process would, in our experience, only increases project delay. Delay, combined with no certainty of outcome if an operating facility could ever be approved at the Third Falls site, has led Xeneca to choose the aforementioned run of river operating regime.

Notwithstanding the commitment to operate run-of-river, Xeneca will complete studies in and outside of the Conservation Reserve to identify environmental features and assess various operational regimes and with modeling of effects to minimize effect on ecological sustainability.

Should study results indicate operation effect are within acceptable ranges, Xeneca will at that time undertake the steps required to amend permits to allow for an operating regime at the Third Falls site.



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Best regards,

A handwritten signature in black ink, appearing to read "Mark Holmes", written in a cursive style.

Mark Holmes
Vice President, Corporate Affairs
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mholmes@xeneca.com



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July 25, 2013

Nancy Daigle
Park Superintendent
Ministry of Natural Resources
Provincial Services Division
Ontario Parks
Little Abitibi Provincial Park
2 -4, 11 Highway South
P.O. Box 730
Cochrane Ont. P0L 1C0
nancy.daigle@ontario.ca

RE: Rationale and Process for Powerline Routing

Dear Ms. Daigle:

This document is intended as a follow-up to our March 2013 telephone discussion.

The powerline running from Ivanhoe: The Chute GS to HONI's Weston Lake Substation is part of a planned network for Xeneca's Kapuskasing River and Ivanhoe River GS projects. These projects have a total planned capacity of just under 30 MW and include three on Kapuskasing River (Lapinagam Rapids, Middle Twp. Buchan and Near North Boundary) and two on the Ivanhoe River (The Chute and Third Falls). Currently they are planned to connect via one 77 km long 69 kV collector line from the Lapinagam site to The Chute site. At The Chute GS site the line voltage is increased to 115 kV (the voltage of the connection point) and the line is routed in an ESE direction to Weston Lake Substation, on provincial Hwy 101, an additional distance of 48 km. Both lines are designed on simple single pole mounting system with no steel tower structures required, minimizing both installation and maintenance costs and environmental footprint.

The rationale for selection of the line route between the Chute GS and Weston Lake DS was considered very carefully. Various factors were considered during the design exercise with final routing based primarily on environmental factors. The design process for the line routing included the following steps: As a corridor of cleared forest on either side of the line is required, initially a straight line route between the two connection points was selected (a distance of about 40 [km]). This theoretical route would generally minimize the overall development corridor footprint of the project and also minimizes line losses for the projects, maximizing the electricity benefit to the public. A straight line does not however, address local environmental values along its route.



The first major values identified on the straight line route included two conservation areas: the Vimy Lake Upland Conservation Area (VLUCA) and the Groundhog River Conservation Area (GRCA). Xeneca was presented with a line routing challenge in that GRCA extends from Kakozhishk Lake (south of Hwy 101), and goes north along both banks of the Groundhog River to a location with latitude close to the Third Falls site.

Given the length of the GRCA and Xeneca's connection point at Weston Lake, it is inevitable that the line will cross the Groundhog River Conservation Area. To circumvent the GRCA completely was not practical as a route to the north would require an extension of the line to Provincial Hwy 11, well over 100 km north of the current crossing point. While a deviation to the south would require the route to run around the Kakozhishk Lake, at least 15 km farther south than the current routing plan. Further a route around Kakozhishk Lake would add many additional water crossings and kilometers of additional line corridor clearing.

To minimize the impact of crossing the GRCA, it was determined to route the line across the river at an existing power line corridor. Upon review of the general area of interest, only two locations could be identified where existing lines and/or other infrastructure crossed the GRCA. Both locations are found in an area just east of the VLUCA. Both points are south of a straight line route between the connection points. From the south, the first existing crossing point over the Groundhog River occurs at the Provincial Hwy 101, Groundhog River Bridge, where a power line currently crosses the river parallel with the highway. A second crossing exists some 3 to 4 km downstream north of the Hwy 101 crossing, where Hydro One Networks Weston Lake Feeder line F1 crosses the river.

With the potential suitability of both crossing locations and to minimize overall local environmental effects, the most northerly crossing point was selected for the line routing (see attached Lines and Roads Map). This choice is deemed beneficial in several ways: Firstly, the route minimizes impact on forests outside but adjacent to both the VLUCA and the GRCA. [0.5 km versus 8.0 km]. Secondly, roads are located immediately adjacent to the GRCA on both sides of the river at this location, making a minor clearing impact to forests outside but adjacent to the GRCA. Further, the alternate route to the Hwy 101 crossing decreases line length and requisite forest clearing by 11.5 km, or 3.6 km versus 15.1 km length. Most of this clearing would be adjacent to both VLUCA and GRCA borders. Finally, the number of water crossings including the Groundhog River, was reduced from qty 5 to 3 by selection of the more northern crossing point.

To minimize visual impact on the park at the crossing point and at existing roadways within the park boundary we plan to employ a feathered clearing process at those locations, similar to that shown in attached document [TM-15]. Further, because we have planned a single pole line arrangement, the clear cut width shown in TM-15, will be reduced by approx. 5 metres (ie: estimated clear cut width for single pole vs double pole as (9' + 10') vs. (25' + 10') ie: 6 [m] vs. 11 [m]).



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Once the crossing point was selected, Xeneca worked with KBM Forestry to ensure the smallest environmental impact along the remaining route. This includes avoiding lakes, minimizing river crossings, avoiding environmentally sensitive wetlands and utilizing existing forestry road and river crossing corridors. This review and routing process utilized the latest versions of MNR maps available loaded into the GIS tools used for the exercise. MNR identified two additional sensitive areas along the planned route which resulted in a 1 km deviation of the line route slightly north of the earlier planned route. We believe this latest version adequately avoids these additional sensitive areas.

Specifically, the final planned route of the 115 kV line route follows a general ESE direction from The Chutesite to a location west of the Groundhog River on Nova Road. No convenient road exists, so the line was directed as much as possible along pre-existing logging roads, logging road river crossings and logging cutovers. The line route also stays well north of a handful of medium sized lakes in this area, ultimately meeting up with Nova Road just west of the Groundhog River. The route completely avoids any proximity to the northern boundary of the VLUCA except where the existing Nova Road meets the designated GRCA crossing point at lat/long, (48.2326, -82.1663). At this location the Nova Road runs into a narrow strip of crown land between the eastern border of the VLUCA and the western border of the GRCA. The power line follows the road parallel and outside of the VLUCA for a few hundred meters where it then turns east and crosses the GRCA parallel and adjacent to the existing HONI Weston Lake 27.6 kV F1 feeder. On the east side of the conservation area, the line continues to run parallel with the F1 feeder for another 3 km along an existing road, where it meets Hwy 101 and runs east to its connection point at Weston Lake DS.

In summary, by minimizing the overall length of the possible line route, combined with a detailed routing process further avoiding or minimizing contact with local environmentally sensitive areas, this line corridor is deemed to have the lowest environmental impact possible for connecting the Ivanhoe: The Chute GS to the Weston Lake DS. It is interesting to note that the final line corridor proposed has increased by only 8 km total, just 20% longer, than the straight line route.

Kind regards,

M Vance, PEng.
Xeneca Power Development

Appendices:

- Lines and Roads Map – Ivanhoe River (The Chute, Third Falls) Tile B16
- Transmission Line Structure – Tangent Line Post – TP-115, TP-138
- TLS – Tangent H-Frame – Single Arm – TH-1A
- Transmission Row Clearing – Feathered/Clear-Cut Clearing – TM-15

**Xeneca and MNR Chapleau District
February 25, 2013
Conference Call
1:30 AM – 2:00 PM**

MNR	Xeneca
Sue Lindquist, Resource Liaison Specialist (SL) Mike Bernier, Planning & Information Management Supervisor (MB) Paul Bernier, District Manager (regrets)	Arnold Chan, VP Legal Affairs (AC) Bob Johnston, MNR/Aboriginal Consultant Dean Assinewe, Aboriginal Relations Liaison

Introductions

Arnold Chan began by thanking the participants and stated the purpose of the meeting and Xeneca's need for consistent and improved communication. Xeneca has been occupied in delivering on commitments to communities.

Project descriptions and notices have been sent to communities as well as DRAFT EAs and background studies (CD format). Xeneca has offered staff and consultants to assist with the review of the reports and information. Further Xeneca has offered financial assistance so that communities can engage with a consultant to provide a peer review of the reports. Xeneca is also prepared to offer to meet (information centre) with the communities if they determine it necessary.

Arnold provided an update on communities in a chronological order:

Ivanhoe

Wabun Tribal Council represents Mattagami, Brunswick House Chapleau Ojibwe and Flying Post First Nation

Wabun and the member communities continue the approach to negotiate an economic deal first before engaging in EA consultations.

Arnold provided background on the economic participation model and explained how Xeneca advanced on the 25% model and changed last year (2012) to the 50% model.

Eric Coombs (financial advisor) is working with Wabun and has requested a cash flow model be developed to assist with his evaluations. Xeneca is drafting the model into a term sheet after review by the legal counsel. The term sheet will allow the parties to advance on the legal agreement and allow the dialogue to continue with EA and cultural heritage values.

Chapleau Cree

Ivanhoe projects appears to be the focus with the community. Chapleau Cree and Xeneca collaborated to organize a field trip The Chute project site.

On August 7, Xeneca and Chapleau had a meeting and invited contractors, NRSI and Hatch to present on the Kapuskasing and Ivanhoe projects. It was also an opportunity to introduce Uwe Roeper, CEO to the leadership.

In September Chapleau Cree and Xeneca began planning the field trip with Tony Ross of Ross Scullion (legal counsel for Chapleau Cree). The field trip purpose was to investigate the culturally modified trees (CMT) and cedars at The Chute. The field trip (sponsored by Xeneca) included Chapleau Cree's archaeology advisor, Bill Allen, Tony Ross, Elders from Chapleau Cree (and neighbouring communities) council members and youth. The gathering was an opportunity to raise concerns and to discuss environmental responsibilities. At the follow up meeting/dinner a request for a project model (or drawings) was asked to be provided to the community for a better visual representation.

Xeneca provided Tony Ross the same economic model that Wabun received. Chapleau Cree and Wabun are willing to work collaboratively.

Taykwa Tagamou Nation

TTN is interested in the project but only from Xeneca/First Nation relations perspective

Métis Nation of Ontario

Xeneca works with secretariat office and Melanie Paradis, Director (now moved on to a different organization) and now Mark Bowler new Director to set up meetings to plan and coordinate for regional meetings. Since the initial meetings, James Wagar, Supervisor is now the MNO lead to establish a consultation process. Xeneca met with Region 3 Abitibi Temiscamingue/James Bay Consultation Committee on January 23 to discuss the Kapuskasing, Ivanhoe, Wanatango and Marter Projects at Cedar Meadows, Timmins, ON. Xeneca provided a presentation on the environment, cultural heritage values and discussed the next steps of meeting with the negotiation committee. Part of the next steps will be to develop a regional MOU and advance towards an IBA to address regional concerns and contribute towards their TEK model.

Moose Cree First Nation

Xeneca and Hearst District complete quarterly calls to discuss the projects on the Kap and Ivanhoe. Moose Cree seem mostly concerned about the Kap projects. Arnold and Dean met with Fred Hunter (Moose Cree consultant/advisor) in November 2012 at the Xeneca office.

Xeneca continue to seek a meeting with Moose Cree and Jack Rickard.

Michipicoten First Nation

No response to communication to date but Xeneca will continue to provide information and seek meeting or discussion about project interest.

Outlet Lake Project (Kapusking River)

Xeneca has deferred the project

Questions

A question was asked about the MNO Negotiation Team and next steps involved. Andy Lefebvre, Marcel Lafrance and Urgil Courville, make up the team and the next step is set up a meeting with the negotiation committee. The next opportunity could be at their annual general assembly (AGA).

A question was asked about the model and artist drawing for the Chapleau Cree. Xeneca just sent the package containing the model with accompanying letter to Chapleau Cree.

A question was raised about the Draft EA report. Xeneca will send the communities the information in advance to provide more time to review the material

MB was concerned about communities knowing about the agencies review or input on the Draft EA.

AC explained that Xeneca is not concerned about sharing the agencies feedback for the purposes of maintaining transparency.

SL asked about the geophysical testing permits

AC replied that there are no issues at Third Falls and have Xstrata's consent on their mining claim.

Bill? Mentioned that the Wabun communities are not in support of the permits.

AC responded by explaining that Wabun communities could have been motivated by the timing and delivery of the economic model. There is growing frustration for the time its taking Xeneca to move the model internally and the permitting process could be used as a pressure point to move things faster.

Action Item (AI) need to set up a meeting with Chapleau MNR to discuss the permitting for the geophysical testing.

A discussion about Michipicoten First Nation and their interest in the project occurred. It may be difficult to set up a meeting because of the community elections.

Discussion and Challenges

Arnold asked about Site Release and a decision towards Applicant of Record (AoR). Xeneca's position is that it has made sufficient progress on the EAs and shown good faith with the communities.

Xeneca will report on the 180 day progress and will request a formal response from the MNR.

dassinewe 13-3-15 5:44 PM

Comment [1]: I have Bill in my notes but I don't recall Bill Gutherie being on the call?

AI: Xeneca will deliver on the report in the next few weeks (end of March)

Next Call

Arnold suggested the next call be held when Xeneca has made advances on its financial discussions with the communities and when there are substantive decisions on project development.

Main topics will be:

- Permitting
- Financial discussion and term sheet
- Chapleau Cree cedar issues

Arnold and Dean will maintain contact with Sue Lindquist on project development and Aboriginal relations.

APPENDIX N3

**Local/Municipal Agency
Correspondence and Minutes**

November 2010

Dear Government Agency or Municipal Official:

Welcome to the start-up activities on development of the Class Environmental Assessment for Waterpower Projects (Class EA) for the proposed Xeneca Power Development Inc. proposed GS project in your jurisdiction. This first step of the EA process is intended to establish the initial conceptual design, start a dialogue on regulatory approval requirements and initiate public consultation and Aboriginal engagement in the Class EA process. To this purpose, Xeneca and its consultants from OEL-HydroSys Inc. are pleased to present you with the Project Description for this proposed project.

This Project Description is provided to assist the proponent in ensuring that all aspects of the project are accounted for in enough detail to allow the public, Aboriginal communities and government agencies to provide meaningful comment throughout the Class EA process. This document attempts to delineate the 'footprint' of the project within the environmental context of the study area and initially identify features of the environment that may be affected (directly and indirectly) by the proposed project. Xeneca acknowledges that additional potential effects may be identified throughout subsequent phases of the Class EA process as input is received from all stakeholders.

In the early stages of this engagement process, a proponent-led EA coordination meeting will be undertaken with key government agencies and interested Aboriginal communities to coordinate an integrated planning process and to identify environmental concerns and diverse regulatory and management planning requirements that may be associated with the proposed project. This document is intended to assist you in preparing for this engagement process. A detailed list of the federal and provincial regulatory agencies, municipalities, and Aboriginal communities which are receiving a copy of this document directly is included within the document. We will be contacting this distribution group shortly to inquire as to their availability for participation in a Class EA Coordination meeting for this proposed small waterpower development project.

The general public and other groups are also invited to review this document. The document will be provided to these parties through postings on the Xeneca website or, upon request, by direct mail.

If you have any questions or comments in relation to the Class EA for Waterpower Projects planning process or environmental impact assessment related matters, please do not hesitate to contact the OEL-HydroSys Inc. Environmental Assessment Manager, Ms. Tami Sugarman at (613) 839-1453 ext. 229 and tsugarman@oel-hydrosys.ca or Xeneca's Manager of Environmental Studies and Assessment, Edmond Laratta, at (416) 590-9362 ext. 106 and elaratta@xeneca.com .

For questions or comments in relation to all other aspects of the development proposal please contact Xeneca's President, Mr. Patrick Gillette at pgillette@xeneca.com or Xeneca's First Nation and Aboriginal Relations Liaison, Mr. Dean Assinewe at dassinewe@xeneca.ca.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Patrick W. Gillette". The signature is fluid and cursive, with a large initial "P" and "G".

Patrick Gillette
President
Xeneca Power Development Inc.

Ref: Xeneca Project Description Cover Let Nov 2010.doc

CORRECTION NOTICE

Please note the corrections to the following Xeneca Power Hydroelectric Generating Station Projects;

AMMENDMENT TO FIRST NATIONS

Allen and Struthers (Wanapitei River)

The Sagamok First Nation was listed and identified as a Local Aboriginal Community for the Allen and Struthers Project in various sections of the Project Description document. The Sagamok First Nation was not identified as a Local Aboriginal Community by the Ministry of Natural Resources for this project and in these instances should be omitted.

- Page 2; "Distribution" "First Nations"
- Page 8, Section 1.1.5; "Parties who received the Project Description" "First Nations"
- Page 9, Table 1.1; "Government Agencies and Organizations to be Contacted" "First Nations"
- Page 24, Section 3.3.1; "Proximity to Aboriginal Reserves and Traditional Territory"

Larder and Raven (Larder River)

- The Wahgoshig First Nation has been identified by the Ministry of Natural Resources as a Local Aboriginal Community for the Larder and Raven Project. The Wahgoshig First Nation has now been included as a Local Aboriginal Community for the Larder and Raven Project.

Wabagishik Rapids (Vermilion River)

The Wahnapiatae First Nation was listed and identified as a Local Aboriginal Community for the Wabagishik Rapids Project in various sections of the Project Description document. The Wahnapiatae First Nation was not identified as a Local Aboriginal Community by the Ministry of Natural Resources for this project. The Wahnapiatae First Nation is no longer an identified Local Aboriginal Community in the Wabagishik Rapids project.

Furthermore, the Wikwemikong Unceded First Nation is now recognized as a stakeholder in this proposed undertaking.

AMMENDMENT TO ECONOMIC BENEFITS SECTION 1.1.4

There are two entries in Section 1.1.4 Economic Benefits where incorrect calculations were included:

- The sentence; “Local/Regional economic boost of **\$2.5 million per MW** about **\$12 million.**”
- The sentence; “Significant return to the people of Ontario with approximately **\$5 million per MW (\$24 million** over the 40 year lifespan of the project) paid through Gross Revenue Charges (GRC) and Provincial and Federal Income taxes.”

Totals (\$) should accurately reflect the capacity (MW) for each project. As such, the economic benefits will vary for each site. The revised totals for “**Local/regional economic boost**” and “**Significant return to the people of Ontario**” on a site specific basis are listed below.

Allen and Struthers (Wanapitei River)

- 2.8 MW capacity = \$7 million; \$14 million

Big Eddy (Petawawa River)

- 5.3 MW capacity = \$13.3 million; \$26.5 million

The Chute (Ivanhoe River)

- 3.6 MW capacity = \$9 million; \$18 million

Half Mile Rapids (Petawawa River)

- 4.8 MW capacity = \$12 million, \$24 million

Four Slide Falls (Serpent River)

- 7.3 MW capacity = \$18.3 million, \$36.5 million

McCarthy Chute (Serpent River)

- 2 MW capacity = \$5 million, \$10 million

Larder and Raven (Larder River)

- 1.25 MW capacity = \$3.1 million, \$6.3 million

Wabagishik Rapids (Vermilion River)

- 3.4 MW capacity = \$8.5 million, \$17 million

Minutes from November 1 Presentation to Foleyet Local Services Board

Attended by:

LSB Chair, Deborah DesRochers

LSB Secretary Shiela Derasp

Fernande Dallaire

Adrienne Thibault

Koren Gabriel

Verna Bookson

M. Holmes, Xeneca VP, Corporate Affairs

L. King, Hatch Energy (Consulting for Xeneca)

A sign-in sheet noting attendee's names and contact information was completed.

The meeting commenced at approximately 10:10 a.m. November 2 with Local Services Board (LSB) Chair and Secretary Shiela Derasp welcoming M. Holmes and L. King and noting there is significant local interest in Xeneca's proposed projects.

M. Holmes presented draft versions of the information panels that are to be finalized for Public Meetings in Foleyet in January to inform the general public of Xeneca's waterpower projects on the Ivanhoe River.

The 30 minute presentation outlined:

- Xeneca's company profile
- The Waterpower Class EA process
- Project conceptual design
- Development timelines

Following the presentation, members of the Local Services Board noted that the Community has seen a significant loss of population, dropping from about 3,000 people 20 years ago to a present day total of 150-175 year-round residents.

Members of the LSB also posed questions and noted that the most significant concern about Xeneca's projects involve any impacts on the Town of Foleyet, and , in particular, water control and the community's water intake and sewage treatment plant.

M. Holmes noted that the project in closest proximity to the Town is the Chutes which is at least 7 km downstream. Impact from the proposed structure is less than 3 km. The second project at Third Falls is 30 km downstream from the Chutes.

The project concept and design including an in-water structure, intake channel and powerhouse can be designed to improve water control on the river, but, again, given the project location, it is unlikely there would be much if any impact on the Town.

Service Board members noted an existing dam at Ivanhoe Lake failed several years ago causing significant damage to the town.

M. Holmes noted that, unlike older water control structures using stop logs, Xeneca's facilities would be automated and water control can be affected by the push of a button. Further, it was explained that design of the plant is based on the most extreme conditions that can be expected in a 100 year period.

Service Board members noted that the community's drinking water and sewage treatment is managed by the Ontario Clean Water Agency and that the agency would be involved in the development process to ensure community water supplies are protected.

Asked if the project would cost the town anything, M. Holmes noted that the opposite would likely be true. Significant economic potential exists in terms of employment and economic stimulus associated with a major construction project. The cost to build at \$5 million per MW was outlined for the group and it was noted Xeneca works to procure locally as much of its goods and services as possible. Regionally it can be expected that up to \$2.5 million per MW would be spent hiring labor and services.

Asked about Xeneca's experience in building power plants, M. Holmes referred the group to Misema GS outside of Englehart Ontario. He explained that the principals of the company have significant experience through a former company known as CREC.

Questions were also posed about impact to terrestrial wildlife and it was noted that the region is renowned for its population of rare white moose. M. Holmes and L. King explained that both Xeneca projects on the Ivanhoe are relatively small and it is highly unlikely flooding will impact moose. LSB members were advised that more definitive answers to environmental questions will be developed through the Waterpower Class Environmental Assessment (Class EA).

Describing the project milestones, M. Holmes noted that, under contract, Xeneca is to have the plant built and commissioned within a five year period. He also noted that consultation with the Town and other stakeholders does not begin or end with the Class EA but is expected to be ongoing.

LSB members noted that there are several gauges measuring water levels and flows on the Ivanhoe River. M. Holmes noted that the data collected by those gauges is being used by the company and that

further monitoring equipment may be installed to further determine the best project design and operation.

LSB members noting past problems with Hydro One Networks Inc (HONI) also questioned what role that distribution company may have in the project. M. Holmes explained that HONI is not part of waterpower project itself but that in order to connect to the provincial power grid, HONI would be involved.

M. Holmes concluded the meeting noting that town participation in archeological and other studies is encouraged and he urged LSB and community members to visit the Xeneca website at www.xeneca.com for regular project updates, notices and information.

The meeting adjourned at 11:30 a.m.

The Local Services Board of Foleyet
125 Sherry Avenue P.O. Box 162,
Foleyet, On P0M 1T0

Telephone/Fax 705-899-2896

To Xeneca Power Corporation Inc.

The Local Services Board of Foleyet is addressing the upcoming project being installed on the Ivanhoe River at "The Chutes and Third Falls".

The Town of Foleyet Water Treatment Plant relies on the water from Ivanhoe River and is protected under the **Safe Drinking Water Act**. We know that the project is outside our boundaries, but the concern is that we have had issues with low water levels and floods in the spring with heavy runoff when our winters have had an abundance of snow in the past and do not want to have fears of this happening because of this project.

With the past record and now this project that your company wants to proceed with on our river, we The Local Services Board of Foleyet would like you to prove to us that your company will be mindful of our concerns and set our minds at ease after the project is completed. Too high and too low water levels can put our Water/Sewer Treatment Plants in trouble. We rely on The Ministry of Natural Resources Chapleau District to monitor the Ivanhoe Dam. They inform the Board whenever they add or remove logs. Will your project hold back water and release water without informing us The Local Services Board of Foleyet, are you going to inform the Ministry of Natural Resources Chapleau whenever this procedure is to take place or is it an automatic system, and will it interfere with the Ivanhoe Dam control of water?

Can you paint a true picture about the outcome and guarantee to the Town of Foleyet that we are protected under all circumstances? We are looking at a couple of years after this project is up and running if we will still have our water resource that we have today?

Your prompt reply regarding this would be greatly appreciated.



5255 Yonge St., Suite 1200, North York, ON M2N 6P4
tel 416-590-9362 fax 416-590-9955 www.xeneca.com

January 24, 2012

Sheila Derasp
The Local Services Board of Foleyet
125 Sherry Avenue P.O. Box 162
Foleyet, ON P0M 1T0

RE: Site Access – The Chute GS

Dear Sheila:

As you are aware Xeneca Power Development (Xeneca) has made commitments to stakeholders regarding access to The Chute GS waterpower project, north of Foleyet on the Ivanhoe River.

Throughout the Class Environmental Assessment (Class EA) process, Xeneca has recognized the importance of this site for both recreational and tourism based angling. Although incomplete, MNR's creel survey also indicates the importance of maintaining and /or enhancing access to the resource.

Xeneca will be required to upgrade some existing roads and construct a new section of road to access the project site. Xeneca commits to maintaining current public access to the area. Restriction will only be placed on areas where it is the interest of public safety (i.e. powerhouse and water intake). We do not expect access to downstream fishing areas to be compromised.

While construction equipment is on location, it makes sense to undertake work that may have socio economic benefits to stakeholders. For example, Xeneca is aware of a rudimentary boat launch and the company is willing to make some modest improvements to this amenity, and we would like the input of the Town of Foleyet and other stakeholder on boat launch location and design. However, please note that changes may require approval by Minister of Natural Resources and other regulatory agencies. Further, it has been indicated that a small parking and rest area is desirable and, again, we would like local input on design and usage.



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Please feel free to contact us by phone or email so that we can continue this exchange. We would also encourage the Foleyet Local Services Board to contact those cc'd on this letter to reach consensus on what kind of amenities best suit the needs of local users. Should this approach be accepted, Xeneca would be pleased to help facilitate discussions.

We look forward to working with the people of Foleyet and surrounding area. If you have any additional questions please do not hesitate to contact us by emailing Vanesa Enskaitis, Stakeholder Relations for The Chute GS at venskaitis@xeneca.com or 416-590-3078.

Very best regards,

A handwritten signature in black ink, appearing to read "Mark Holmes", written in a cursive style.

Mark Holmes
Vice President, Corporate Affairs
Xeneca Power Development

cc. Hugh Currie
Armand Robert
Ivanhoe Lake Cottagers Association
Tim Mutter, Chapleau District MNR



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August 15, 2012

Sheila Derasp
The Local Services Board of Foleyet
125 Sherry Avenue P.O. Box 162
Foleyet, ON P0M 1T0

Dear Sheila,

Following up on the Local Services Board of Foleyet's concerns, this letter will serve as Xeneca's formal commitment that The Chute and Third Falls Generating Stations (GS) will have no impact on Foleyet's water supply or sewage treatment facilities.

For clarity, the headpond of the closest facility (The Chute GS) is over 15 km downstream from Foleyet and that water will never be held back for longer than 24 hours. No backwater effect can be expected as a result of Xeneca's facilities or its operations. It may be of further interest to Foleyet that, for environmental reasons, The Chute will operate run-of-river (no intermittent operation) during spring spawning, which usually coincides with the seasonal freshet.

We are pleased to know that Foleyet and the Ministry of Natural Resources (MNR) are working together to ensure that water flow from MNR's Ivanhoe Lake Dam causes no negative effects on Foleyet's water treatment facilities. The Ivanhoe Lake Dam is the primary control affecting water levels and flow to Foleyet and, subsequently, our GSs downstream of Foleyet. Xeneca is not expecting to enter into any discussions with MNR with respect to how the Ivanhoe Lake Dam is operated.

In the extremely unlikely event that Foleyet's water supply is affected due to Xeneca's construction or operational activities, Xeneca will ensure that clean water is brought in for residents of the Town of Foleyet.

We look forward to continuing a strong and mutually beneficial relationship with the Local Services Board of Foleyet.

Very best regards,

A handwritten signature in black ink, appearing to read 'Mark Holmes', with a stylized flourish at the end.

Mark Holmes
Vice President, Corporate Affairs
Xeneca Power Development
416-590-9362 (office) / 647-588-9707 (cell)
mholmes@xeneca.com