Ministry of Natural Resources

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

#1016

March 5, 2010

Mr. Bruce Richard
Planning and Information Management Supervisor
Ontario Ministry of Natural Resources
Sudbury District
3767 Hwy. 69 South, Suite 5, P3G 1E7

Re: Request for Scientific Collection Permit

Dear Bruce,

Please accept this application for a scientific collector's permit for work to be done in support of the Class EA for Xeneca Power's proposed hydroelectric development on the Vermillion River.

A preliminary scope of work has been developed to address potential natural environment issues associated with these projects.

To summarize, this is our intended preliminary scope of work

- Floral inventories - June through September period (spring and fall) in reservoir areas as well as footprint impact areas
- ELC mapping of inundation zone as well as footprint impact areas
- Breeding bird surveys using OBBA protocols - point counts as well as general observations. Two separate visits in June with 15 days between. Some stations in inundation area as well as footprint impact areas
- Amphibian survey using the Ontario Marsh monitoring protocol- April May and June
- Complete species lists for fish, plants, mammals, herptiles, birds, butterflies
- Generalized fish community sampling
- Fish habitat mapping of critical habitats including spawning, feeding and nursery
- Documentation of the area extent of identified fish habitats
- Walleye spawning surveys
- Sportfish contaminant monitoring - total mercury in fish flesh

Head Office: 225 Labrador Drive, Waterloo, Ontario, N2K 4M8 Tel: (519) 725-2227 Fax: (519) 725-2575
Sault Ste. Marie: 111 Elgin Street, Unit 201, Sault Ste. Marie, Ontario, P6A 6L6 Tel: (705) 253-0620 Fax: (705) 253-0670
Web: www.nrsi.on.ca
Email: info@nrsi.on.ca

We will conduct species-at-risk specific studies only if there are known populations in the area or if MNR has strong reason to believe that they may be present. Having said this, we are always looking for any species as part of our routine fieldwork and, should a species-at-risk be documented, we would negotiate species specific studies to follow with MNR.

Please also note that sampling will be habitat based and not every specific location of a given habitat type will be sampled particularly where access is an issue.

In very immediate terms, if Xeneca Power is awarded a Feed-in-Tariff contract for the Vermilion River, Natural Resource Solutions Inc. (NRSI) intends to conduct a walleye spawning assessment in early spring 2010. Our goal is to locate spawning walleye and identify preferred spawning habitat within the study areas. As part of the spawning survey walleye are to be collected enumerated and marked (with fin clip) to assess populations using identified habitats. The preferred method for finding spawning walleye in rivers with high flows and velocities is angling which covers the most habitats in a short period of time. Egg mats will be deployed when walleye are located to collect eggs for identification and to confirm spawning.

Although we would ideally like to receive a permit which covers all methods for field surveys over all seasons (see attached application), at a minimum, we will require a permit for the spring walleye work. Sampling methods have been included on the request application for both walleye spawning surveys and fisheries community assessments in general.

The study area to be assessed is shown on the attached map. Please advise as to when we might expect a permit to be issued. If you have any concerns or questions please contact the office at your convenience.

Sincerely,
Natural Resource Solutions Inc.

Robert J. Steele

Robert J. Steele, B.Sc.
Principal / Senior Aquatic Biologist

Ontario

Ministry of Natural Resources

Ministère des Richesses naturelles

Application for a Licence to Collect Fish for Scientific Purposes

Demande de permis pour faire la collecte de poissons à des fins scientifiques

☑ New licence application / Nouvelle demande de permis

☐ Licence renewal / Renouvellement de permis → Current Licence No. / N° de permis actuel

Personal information contained on this form is collected under the authority of the *Fish and Wildlife Conservation Act, 1997* and will be used for the purpose of licencing, identification, enforcement, resource management and customer service surveys. Please direct further enquiries to the District Manager of the MNR issuing district.

Les renseignements personnels dans ce formulaire sont recueillis conformément à la *Loi sur la protection du poisson et de la faune, 1997*, et ils seront utilisés aux fins de délivrance de permis, d'identification, d'application des règlements, de gestion des ressources et de sondage sur les services à la clientèle. Veuillez communiquer avec le chef du district du MRN qui délivre le permis si vous avez des questions.

Please print
Veuillez écrire en caractères d'imprimerie

Name of Applicant / Nom du demandeur	Last Name / Nom de famille ☑ Mr./M. ☐ Mrs./Mme ☐ Ms./Mlle ANDERSON	First Name / Prénom PHIL	Middle Name / Second prénom PAUL
	Name of Business/Organization/Affiliation (if applicable) / Nom de l'entreprise/de l'organisme/de l'affiliation (le cas échéant) NATURAL RESOURCE SOLUTIONS INC.		
Mailing address of Applicant / Adresse postale du demandeur	Street Name & No./PO Box/RR#/Gen. Del. / N°, rue/C.P./R.R./poste restante 225 LABRADOR DR.		
	City/Town/Municipality / Ville/village/municipalité WATERLOO	Province/State / Province/État ON	Postal Code/Zip Code / Code postal/Zip N2K 4M8
Physical address of applicant (if different from mailing address) / Adresse physique du demandeur (si elle diffère de l'adresse postale)	Street Name and No., Lot, Conc. / N°, rue, lot, conc.		
	City/Town/Municipality / Ville/village/municipalité	Province/State / Province/État	Postal Code/Zip Code / Code postal/Zip
Phone numbers / N°s de téléphone	Home telephone / Résidence Area Code / Code rég. Tel. # / N° Ext. / Poste 519 - 893 - 3815	Business telephone / Bureau Area Code / Code rég. Tel. # / N° Ext. / Poste 519 - 725 - 2227	Fax / Télécopieur Area Code / Code rég. Tel. # / N° 519 - 725 - 2575

Names of Assistants / Nom des adjoints *(Attach list, if insufficient space) / (Joignez une liste si vous manquez d'espace)*	Last Name / Nom	First Name / Prénom	Middle Name / Second prénom
	Ward	Nigel	
	Calhoun	Deanna.	
	Van Wieren	Gina	
	Goertz	Derek.	
	Keable	Lisa.	
	Schiedle	Andrew	
	Green	Dave.	

Gear to be used / Matériel qui sera utilisé

Electrofishing Boat.	Seine netting
Electrofishing Backpack.	Minnow Trap.
INDEX Netting	
Trap Netting	
Angling	
egg mats	

FW1031 (02/99)

continued on Page 2 / suite à la page 2

Collection information
Données sur la collecte

Date/Collection Period *From-To* / Date/période de collecte *De - à*

Y/A	Y/A	Y/A	Y/A	M	M	D/J	D/J	Y/A	Y/A	Y/A	Y/A	M	M	D/J	D/J
2	0	1	0	0	4	1	5	2	0	1	0	0	9	1	5

(Attach list, if insufficient space)
(Joignez une liste si vous manquez d'espace)

Species / Espèce	Specify Size (eggs, fry, adults) / Précisez le stade (oeuf, frelin, adulte)	Numbers / Nombre	MNR District / District du MRN	Name of Waterbody / Nom de l'étendue d'eau
All species	all			Vermilion River From Vermilion lake Downstream For 70Km to confluence with Spanish River
All species	all			Vermilion River From Vermilion lake Downstream For 70 KM to confluence with Spanish River

Attachments / **Pièces jointes**

Yes/Oui	No/Non	
☑	☐	An outline of the proposed project/collection and the objectives of the study. Or if an educational institution, a statement from an authorized officer (department head) of the institution indicating the educational institution's endorsement of the project and an outline of the objectives of the study. Aperçu du projet/de la collecte proposé(e) et des objectifs de l'étude. S'il s'agit d'un établissement d'enseignement, déclaration d'une personne autorisée (chef de service) de l'établissement attestant son appui pour le projet et aperçu des objectifs de l'étude

I certify that the information provided in this application is true.
Je certifie que les renseignements fournis dans cette demande sont véridiques.

Signature of Applicant / Signature du demandeur

Date of application / Date de la demande

Y/A	Y/A	Y/A	Y/A	M	M	D/J	D/J
2	0	1	1	0	3	0	5


N45° 16' 13" W81° 37' 5"
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NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Memo

Project No. 1016

To: Bruce Richard, Sudbury District MNR

From: Rob Steele, Natural Resource Solutions Inc.

Date: March 17, 2010

Re: Background Information

Natural Resource Solutions Inc. has been retained by Xeneca Power to conduct biological surveys in preparation for proposed hydroelectric development on the Vermilion River.

Two maps are attached, depicting the boundaries of the study area for the proposed development. The red lines indicate the upstream and downstream extent of the project. This includes Vermilion Lake. We would like obtain information for that area plus an additional 1 km surrounding the study site.

We would like to request any information on the natural resources in the study area, such as the following:

- Fisheries assessments,
- Fish collection records and rare species,
- Drain classifications,
- Wetland evaluations,
- Areas of Natural and Scientific Interest
- Provincially Significant Wetlands
- Environmentally Sensitive Areas
- VTE species, significant wildlife habitats (i.e. raptor nesting, colonial species nests, deer yards and feeding areas)
- Any species lists relating to animals and vegetation
- Vegetation mapping, floristic inventories.

Natural Resource Solutions Inc. will be commencing field work in April of 2010, and we would be available to meet with you to pick up any material and discuss this project just prior to our spring fieldwork. Please call if you have any questions or comments.


N46° 15' 12" W81° 37' 6"
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Natalie St-Pierre

From: Dan Gibson [dgibson@nrsi.on.ca]
Sent: December 22, 2010 4:40 PM
To: 'Robinson, Bob L. (MNR)'; 'Rob Steele'; 'Ed Laratta'; dgibson@nrsi.on.ca
Cc: 'Andrew Schiedel'; Tami Sugarman; 'Cobb, Eric (MNR)'; 'Hall, Mike (MNR)'; 'Selinger, Wayne (MNR)'
Subject: RE: Sudbury Waterpower projects - Sturgeon
Attachments: Lake Sturgeon Telemetry Proposal_Dec 21, 2010.pdf

Hi Bob;
Your email is well timed. We've been busy at this end working on our plans for 2011 already and I'm happy to include the attached proposal for two multi-year telemetry programs on both the Vermillion River (Wabageshik GS) and Wanapitei River (Allen and Struthers GS). Please review and distribute accordingly. I'd also like to request a meeting with the representatives from Sudbury District MNR as well as the aforementioned Sturgeon Task Team for early January 2011 to discuss and formalize an agreement/work plan for executing the projects. As these projects will take considerable planning I'd like to propose January 13 or 14, 2011 as two potential dates for this meeting. This will allow for suitable time to order equipment and finalize a study design.

These studies are proposed as multi-year (2011-2014) undertakings and are intended to further the knowledge distribution and habitat use of Lake Sturgeon on these river systems. As you will read in the attached, we believe these programs will not only prove to be extremely valuable for Class EA purposes, but also in terms of establishing our net benefit to Lake Sturgeon with regards to the ESA Section 17(2)C permit to construct. Please note that a third study on the Frederickhouse River (Wanatango Falls) has also been included in this proposal for efficiencies in distribution. Please disregard the language re: Wanatango Falls.

Best Regards and Merry Christmas.

Dan Gibson, M.E.Sc.
Senior Aquatic Biologist
Natural Resource Solutions Inc.
225 Labrador Drive, Unit 1
Waterloo, ON, N2K 4M8
(p) 519.725.2227
(f) 519.725.2575
(c) 519.501.4753
(e) dgibson@nrsi.on.ca
www.nrsi.on.ca

From: Robinson, Bob L. (MNR) [mailto:Bob.L.Robinson@ontario.ca]
Sent: Wednesday, December 22, 2010 10:45 AM
To: Rob Steele
Cc: Dan Gibson; Andrew Schiedel; Tami Sugarman; Cobb, Eric (MNR); Hall, Mike (MNR); Selinger, Wayne (MNR)
Subject: Sudbury Waterpower projects - Sturgeon

Hi Rob et al;

This is short fyi for you: as we move forward with Site Release, info gathering etc here in Sudbury District, for the proposed waterpower projects on the Wanapitei and Vermilion, we are hearing more about the occurrence of sturgeon in these rivers.
These are anecdotal reports; however, there is definitely a heightened interest regard

ng sturgeon and these projects. In particular, we have reports of sturgeon being angled in the Wanapitei River near the Killarney Hwy bridge, and at the large island below Wabageshik rapids, at the site of the proposed dam.

We do not have any concrete evidence to these claims, but I thought I would pass it on. Dan G mentioned sending a proposal for addressing sturgeon/ESA for these projects, I assume you will provide when ready.

Please contact me if you would like to discuss further.

Enjoy the holidays,
Bob Robinson
MNR-Sudbury District

Natalie St-Pierre

From: Vanesa Enskaitis [VEnskaitis@xeneca.com]
Sent: February 22, 2011 11:11 AM
To: Kai Markvorsen
Subject: FW: Public Information Centres - Sudbury District

Hi Kai,
Not sure if this would be logged under agency (as it's MNR) or under Public

---

From: Vanesa Enskaitis
Sent: Wednesday, January 05, 2011 4:11 PM
To: Robinson, Bob L. (MNR)
Cc: Tami Sugarman; Philippa McPhee; Mark Holmes
Subject: RE: Public Information Centres - Sudbury District

Hi Bob,

Thanks for your interest in the proposed Allen & Struthers project; we hope to see you at the PIC on the 17th at the French River Inn.
We will be hosting a PIC for our Vermillion River projects (which includes Wabagishik Rapids) in the near future.
I will be sure to let you know once that date is confirmed.

Best regards,
Vanesa

Vanesa Enskaitis

Public Affairs Liaison
Xeneca Power Development Inc.
5160 Yonge Street, Suite 520
Toronto, ON M2N 6L9
T: 416-590-9362 X 104
F: 416-590-9955
E: venskaitis@xeneca.com

Visit the Xeneca website for the most up-to-date project information:
www.xeneca.com

From: Robinson, Bob L. (MNR) [mailto:Bob.L.Robinson@ontario.ca]
Sent: Wednesday, January 05, 2011 9:12 AM
To: Vanesa Enskaitis
Subject: Public Information Centres - Sudbury District

Hello Vanesa;
I understand there is a Public Information Centre proposed for Monday January 17, for the Allen&Struthers project. Is there a similar PIC proposed for the Wabageshik Rapids site as well?
Could you provide an update/any relevant info?

Thank you
Bob Robinson
Ministry of Natural Resources

Natalie St-Pierre

From: Miller, Chuck (MNR) [chuck.miller@ontario.ca]
Sent: January 31, 2011 10:08 AM
To: Environmental Assessment Information
Cc: Robinson, Bob L. (MNR); Morris, Edward (MNR); Bewick, Paul (MNR)
Subject: FW: EA Coordination meeting for Xeneca's proposed Allen & Struthers and Wabagishik Rapids projects, February 8th, Sudbury, ON
Attachments: Xeneca EA Coordination Meeting Draft AGENDA.doc

Importance: High

I am unfortunately not available to attend – as I am away on training.

The Provincial Parks and Conservation Reserves Act prohibits hydroelectric development in provincial parks. (No development proposed in park – in your information).

The Provincial Parks and Conservation Reserves Act has special provisions for consideration of transmission corridors in provincial parks (No development proposed in park – in your information).

The French River Provincial Park management plan currently has no provision for fisheries restoration work – to meet habitat disturbance and destruction – and net benefit to species — not to say it can't happen but a plan amendment process would be required.

Research permits are required in provincial parks. Research permit reporting requirements must be met.

Any proposed negative impacts on the park must be addressed and based on the limited information provided to date would include:

- habitats to support viable populations of all species at risk –(eg Sturgeon **above** and below dam site)
- fish spawning – all species not just sport fish – sedimentation, mercury, flows, temperatures – coordination of flow with upstream dams
- cultural heritage assessment – rumours of graves from logging era – know rivers / portages have high cultural values
- involvement of First Nations and Metis of French River and NE Georgian Bay as far south as Parry Sound
- Access – potential loss of remoteness – ancient winter logging road with no ATV's – turned into a road suitable for cement trucks – illegal fishing and hunters (including elk) ATV access to park?
- Portage access during and after construction
- Cumulative effects of multiple dams on Lake Huron – sturgeon viability

---

From: Environmental Assessment Information [mailto:eainfo@oel-hydrosys.ca]
Sent: January 31, 2011 8:54 AM
To: Robinson, Bob L. (MNR); Smith, Brett (MEI); Caitlin Scott; Carl Jorgensen; Colin Hoag; Darla Cameron; Pickles, David (MAA); Doug Nadorozny; Webber, Gerry (MTC); Kwan, Helen L. (MEI); Joel Mackenzie; John Woodward; Kirzati, Katherine (MTC); Brownlee, Laurie (ENE); Mark Simeoni; Mei Ling Chen; Mohammad Sajjad Khan; Santos, Narren (ENE); Marleau, Paul (MTO); Paul Norris; Paul Sajatovic; Landry, Phil (ENE); Rob Dobos; Robert Deschene; Spooner, Dr. Simon (MTC); Transport Canada; Candy Beavais; Miller, Chuck (MNR); Lillie-Paetz, Jennifer (MNDMF); Sein, Rod (ENE); Moggy, Steven (ENE)
Cc: 'Mark Holmes'; Philippa McPhee; Tami Sugarman; 'Ed Laratta'
Subject: EA Coordination meeting for Xeneca's proposed Allen & Struthers and Wabagishik Rapids projects, February 8th, Sudbury, ON
Importance: High

Good morning;

An all day EA coordination meeting in support of Xeneca's proposed Allen & Struthers waterpower project on the Wanipitei River and Wabagishik Rapids waterpower project on the Vermillion River will be held in Sudbury on February 8, 2011. The meeting will begin at 09:30 and continue through until sometime mid afternoon.

Meeting location and teleconference details will be forwarded shortly.

A light lunch will be provided in order that we may continue working through the lunch hour. If you will be joining us in person, please notify us so that we can finalize the details for catering. If you will be joining us by teleconference, we ask that you are also able to continue through the working lunch.

Please respond as soon as possible to confirm your participation in this event.

A draft agenda is attached, suggested additions are welcomed so that we may finalize the agenda by mid next week.

This invitation is being issued on behalf of Xeneca Power Corporation Inc.

Regards,

Karen Fortin

Environmental Assessment Information
OEL-HydroSys Inc. – 3108 Carp Rd. - P.O. Box 430, Carp, Ontario, Canada K0A 1L0
(T) (613) 839-1453 (F) (613) 839-5376
eainfo@oel-hydrosys.ca – www.oel-hydrosys.ca

OEL-HydroSys, WESA Envir-Eau, WESA, WESA Technologies, members of WESA Group Inc.

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Please consider the environment before printing this e-mail

Natalie St-Pierre

From: Vanesa Enskaitis [VEnskaitis@xeneca.com]
Sent: February 25, 2011 10:12 AM
To: Kai Markvorsen
Subject: FW: Site Information Packages - Allen&Struthers, Wabageshik

MNR sent us these SIP packages. I assume this should be logged
v.

From: Patrick Gillette
Sent: Thursday, February 24, 2011 3:54 PM
To: Ed Laratta; Don Chubbuck; Arnold Chan; Dean Assinewe
Cc: Mark Holmes; Vanesa Enskaitis
Subject: FW: Site Information Packages - Allen&Struthers, Wabageshik

FYI

Patrick W. Gillette BA, MES, MPA
5160 Yonge Street
Suite 520
North York, Ontario, Canada
M2N 6L9
Tel: 416-590-9362
Cell: 416-697-4004
Fax: 416-590-9955

From: Robinson, Bob L. (MNR) [mailto:Bob.L.Robinson@ontario.ca]
Sent: Thursday, February 24, 2011 3:45 PM
To: Mark Holmes; Patrick Gillette
Subject: Site Information Packages - Allen&Struthers, Wabageshik

Mark, Patrick – SIPs attached, please let me know if a concall will work for early March. Bob Robinson

Ministry of Natural Resources

Sudbury District Office
Northeast Region
Field Services Division

3767 Highway 69 South, Suite 5
Sudbury, ON P3G 1E7
Tel.: 705-564-7823
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Ministère des Richesses naturelles

Bureau de district Sudbury
Région Nord-Est
Division des services sur le terrain

3767 Route 69 Sud, bureau 5
Sudbury ON P3G 1E7
Tél. : 705-564-7823
Téléc. : 705-564-7879

Ontario

Memo

February 23, 2011

To: Mark Holmes, Patrick Gillette, Xeneca Power Development Inc.

From: Bob Robinson

Re: Site Information Package for Allen&Struthers and Wabageshik sites

Mark, Patrick:

Please find attached Site Description Packages (SIPs) for the proposed waterpower developments at site 2DB13 (Allen & Struthers) and site 2CF12 (Wabageshik Rapids) in Sudbury District. These SIPs are being provided in accordance with MNR's Waterpower Site Release Policy and Procedure and the Non-Competitive Site Release Process.

I will suggest that Sudbury District and Xeneca arrange a conference call in the near future to discuss the SIP, provide an update on discussions with Aboriginal Communities, and identify next steps for completing the site release process.

I trust this is sufficient. Please indicate available times to discuss by conference call.

Regards,
Bob Robinson

Danielle Dempsey

From: Tami Sugarman
Sent: February-24-11 4:56 PM
To: Kai Markvorsen
Subject: FW: Wabagishik Rapids Hydroelectric Development - Draft Existing Conditions report

Sent to MNR.

Tami Sugarman - OEL-HydroSys Carp - (613) 839-1453 x229

From: Rob Steele [mailto:rsteele@nrsi.on.ca]
Sent: February 24, 2011 4:14 PM
To: Robinson, Bob L. (MNR)
Cc: Ed Laratta; Tami Sugarman
Subject: Wabagishik Rapids Hydroelectric Development - Draft Existing Conditions report

Bob

I am pleased to provide you with the draft Existing Conditions Report for the Wabagishik Rapids Hydro project on the Vermilion River. Please follow the instructions below to download it from our FTP site. Please note that the technical appendices for this report are combined in the same pdf as the report.

Regards, Rob

Please enter in the user name and password below

[redacted] or this one if the first does not work

[redacted]

Click on the 'Library' tab and you should see the "Sudbury District" folder on the left-hand side. Click this folder to see its contents appear to the right. You can download the files by right clicking and selecting download.
Please contact me if you have any problems accessing this information

--

Robert J. Steele, B.Sc.
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Natalie St-Pierre

From: Reynen, Rick (MNR) [Rick.Reynen@ontario.ca]
Sent: March 1, 2011 2:16 PM
To: Dean Assinewe
Cc: Robinson, Bob L. (MNR); Stephanie Hodsoll; Vanesa Enskaitis
Subject: RE: Allen & Struthers and Wabageshik

Dean,

I'm aware that our Regional office is working towards providing Xeneca with information for consideration in developing your Draft Consultation Plan. Hopefully it won't be too long.

Yes, Bob is trying to coordinate a telecom.

Talk with you soon.

Rick Reynen
Resource Liaison Officer
Sudbury District

Ph:(705) 564-7847
Fx:(705) 564-7879

From: Dean Assinewe [mailto:DAssinewe@xeneca.com]
Sent: Tuesday, March 01, 2011 1:44 PM
To: Reynen, Rick (MNR)
Cc: Robinson, Bob L. (MNR); Stephanie Hodsoll; Vanesa Enskaitis; Dean Assinewe
Subject: RE: Allen & Struthers and Wabageshik

Thanks for the update Rick

I was in discussion with Sue Lindquist, Chapleau district about getting input from that areas but now folks at the regional office had weighed in an now want to provide me with information or material to include in the plan. I'm waiting on that right now.

Is Bob Robinson planning that call?

Dean

DEAN ASSINEWE, R.P.F. Aboriginal Relations Liaison
Xeneca Power Development Inc.
5160 Yonge Street
Suite 520
North York, ON, M2N 6L9

Tel: 416 590 9362
Cell: 705 863 1969
Fax: 416 590 9955
Email: dassinewe@xeneca.com
www.xeneca.com

From: Reynen, Rick (MNR) [mailto:Rick.Reynen@ontario.ca]
Sent: Tuesday, March 01, 2011 12:20 PM
To: Dean Assinewe
Cc: Robinson, Bob L. (MNR); Stephanie Hodsoll; Vanesa Enskaitis
Subject: RE: Allen & Struthers and Wabageshik

Hi Dean,

My plans were that once Sudbury MNR connects with Xeneca by conference call, and after Xeneca submits Waterpower Applicant Declaration Form to MNR as per Water Power Site Release Procedure, Sudbury MNR will be sending out letters to Aboriginal communities informing them that Xeneca is proceeding with next steps in the process. Once that letter is sent to the Aboriginal communities, I plan to follow up with them by phone to see if they want to meet with MNR (and Xeneca if the desired).

Because Chief McQuabbie of Henvey Inlet First Nation attended the Public Information Session at the French River, I tried to contact him by phone (Feb 9/11) and left a message, but have not heard back from him.

In the meantime, it is my understanding that Xeneca has been working on a Draft Aboriginal Consultation Plan for MNR's review/consideration.

Has Xeneca made any further attempts to engage the Communities?

A conference call with reps from Xeneca and Sudbury MNR is being scheduled for near future to discuss Site Release process, including Aboriginal consultation. Perhaps we can discuss at that time. Alternatively, give me a call directly and we can discuss.

Thanks

Rick Reynen
Resource Liaison Officer
Sudbury District

Ph:(705) 564-7847
Fx:(705) 564-7879

From: Dean Assinewe [mailto:DAssinewe@xeneca.com]
Sent: Monday, February 28, 2011 4:55 PM
To: Reynen, Rick (MNR)
Cc: Dean Assinewe; Stephanie Hodsoll; Vanesa Enskaitis
Subject: Allen & Struthers and Wabageshik

Hi Rick

Last we spoke you were putting a plan to meet with the communities related to the projects (above).

Do you have any dates on the calendar yet?

Dean

DEAN ASSINEWE, R.P.F. Aboriginal Relations Liaison
Xeneca Power Development Inc.
5160 Yonge Street
Suite 520
North York, ON, M2N 6L9

Tel: 416 590 9362

Natalie St-Pierre

From: Tami Sugarman
Sent: April 12, 2011 5:20 PM
To: Robinson, Bob L. (MNR)
Cc: Reynen, Rick (MNR); Richard, Bruce (MNR); Dosser, Sandra (MNR); Kai Markvorsen
Subject: RE: Draft EA Coordination Meeting Minutes - Allen and Struthers, Wanapitei River and Wabagishik, Vermillion River - For Participant Review

Hello Bob and all
From our side what was agreed upon at this meeting (Feb 8) - Xeneca and consultant team agreed to incorporating the requirements of the RSFD EA into one provincial environmental assessment process based on the categorization of the TL by MNR and it was decided that the planning process to be followed was the OWA Class EA for Waterpower Projects. One ER would be produced that would incorporate all requirements for provincial and federal EAs.

Therefore, we ask for clarification on what exactly is meant by Sandra Dosser's comments in the draft minutes (see below) specifically the underlined section;

MNR Comment Sandra D: Regarding the RSFD EA – we did not agree that the Waterpower Class EA was the mechanism for accomplishing the RSFD EA but rather one body of documentation could be written. MNR must screen the project based as per S 3.2 of the RSFD EA based on a project description defined in Step 2 of 3.2. MNR will then confirm the category ***and the proponent will continue with the Project Planning and Consultation Requirements as per S. 4.0 of the RSFD EA.***

Bluntly, is the proponent required to conduct a MNR RSFD EA in tandem with the OWA Class EA for the transmission line section on Crown land? If not, what does it mean to MNR to harmonize the two processes?

To Xeneca harmonization means the OWA Class EA is the recognized process to be followed and for a project where the TL, involving Crown land, is categorized as a C level undertaking by MNR – the proponent would be required to include an additional public review period (i.e. Notice to inspect that is a requirement of a new project on an un-managed waterway) but this would remain a proponent driven process. Is this what is meant by Sandra's comment above?

I have advised Xeneca to forward the TL maps as soon as they are completed. I have been told that this will be within the next few weeks.

Tami

Tami Sugarman, B.Sc., P.Geo. – Principal, Senior Environmental Approvals Advisor
OEL-HydroSys Inc. – 3108 Carp Road - P.O. Box 430, Carp, Ontario, Canada K0A 1L0
(T) (613) 839-1453 x229 (C) (613) 894-3509 (F) (613) 839-5376
tsugarman@oel-hydrosys.ca – www.oel-hydrosys.ca

OEL-HydroSys, WESA Envir-Eau, WESA, WESA Technologies, members of WESA Group Inc.

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Please consider the environment before printing this e-mail

From: Robinson, Bob L. (MNR) [mailto:Bob.L.Robinson@ontario.ca]
Sent: March 14, 2011 11:54 AM
To: Environmental Assessment Information
Cc: Reynen, Rick (MNR); Richard, Bruce (MNR); Dosser, Sandra (MNR)
Subject: RE: Draft EA Coordination Meeting Minutes - Allen and Struthers, Wanapitei River and Wabagishik, Vermillion River - For Participant Review

Hi Kai;

Please find attached comments from MNR-Sudbury District on draft minutes to our February 8th meeting.
Also:
-I have enquired about Fire Management BMPs, and will forward when I receive
-There are Forest Management Plans for the Sudbury, Northshore and Spanish Forests. The plans are available for viewing at the MNR District offices and the Sustainable Forest Licencee offices.
-Sudbury District is ok if these minutes are made available to the public
-Full details of the permitting discussion is not captured – mainly LRIA and PLA. A proper discussion/submission to cover all details should be considered – see comments in attached document. A one week turn-around for these minutes, with large omissions is not practical for us.

Please call if you require clarification,
Regards, Bob

From: Environmental Assessment Information [mailto:eainfo@oel-hydrosys.ca]
Sent: March 7, 2011 3:39 PM
To: Robinson, Bob L. (MNR); Smith, Brett (MEI); 'Caitlin Scott'; 'Candy Beavais'; 'Carl Jorgensen'; Miller, Chuck (MNR); Pickles, David (MAA); Webber, Gerry (MTC); Kwan, Helen L. (MEI); Lillie-Paetz, Jennifer (MNDMF); Kirzati, Katherine (MTC); 'Laurie Brownlee'; 'Mei Ling Chen'; Santos, Narren (ENE); Marleau, Paul (MTO); 'Rob Dobos'; Sein, Rod (ENE); Spooner, Dr. Simon (MTC); 'Stephanie Davis'; Moggy, Steven (ENE); 'Transport Canada'; 'Colin Hoag'; 'Doug Nadorozny'; 'Joel Mackenzie'; 'John Woodward'; 'Mark Simeoni'; Khan, Mohammad Sajjad(ENE); 'Paul Norris'; 'Paul Sajatovic'; Landry, Phil (ENE); 'Robert Deschene'
Cc: Tami Sugarman; Philippa McPhee; elaratta@xeneca.com; rsteele@nrsi.on.ca; mholmes@xeneca.com; aschiedel@nrsi.on.ca
Subject: Draft EA Coordination Meeting Minutes - Allen and Struthers, Wanapitei River and Wabagishik, Vermillion River - For Participant Review

Good afternoon;

Draft meeting minutes of the EA Coordination meeting for the proposed Allen & Struthers waterpower project on the Wanapitei River and Wabagishik Rapids waterpower project on the Vermilion River, held at the Quality Inn in Sudbury on February 8th are attached for review by meeting participants.

We would ask that you distribute internally to anyone else who from your organization that may have participated in the meeting.

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.

The final minutes from this meeting will be included as a component of the environmental report. At this time there have been several requests for copies of the meeting minutes to be made available to non meeting

participants. Accordingly, we would request that, when providing comments back on the minutes, that participants identify if they have an objection to the general distribution of the minutes prior to their inclusion in the environmental report.

Please note that all review comments are requested no later than noon on March 14th.

Best regards,

Kai Markvorsen

Environmental Assessment Information
OEL-HydroSys Inc. – 3108 Carp Rd. - P.O. Box 430, Carp, Ontario, Canada K0A 1L0
(T) (613) 839-1453 (F) (613) 839-5376
eainfo@oel-hydrosys.ca – www.oel-hydrosys.ca

OEL-HydroSys, WESA Envir-Eau, WESA, WESA Technologies, members of WESA Group Inc.

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Please consider the environment before printing this e-mail

Natalie St-Pierre

From: Robert Steele [rsteele@nrsi.on.ca]
Sent: May 3, 2011 1:30 PM
To: Robinson, Bob L. (MNR)
Cc: Andrew Schiedel; Tami Sugarman; Ed Laratta; Brett Woodman
Subject: Biological Scoping Meeting

Bob

As a followup to our meetings last week, we need to schedule a sit down with your biologists and DFO to scope out the issues associated with the various Xeneca projects in your district and then determine what implications this has for planned field efforts. As the 2011 field season is upon us we would like to do this as soon as we possibly can.

I'm envisioning a meeting at your office in Sudbury although some people may have to join by phone. These sessions tend to be much more productive when we can throw maps down on the table and look at them together.

I'm thinking that we may want to delay talking about sturgeon for another meeting since the Sturgeon Task team will be involved and I know that Sandra is looking at a more comprehensive sturgeon meeting involving more than just Sudbury District.

Please check with your bios and then throw out some possible dates for the meeting.

Given that we will be taking about three projects, involving five sites on two different rivers I'm not sure that we can finish this in a day. I suggest that we set two days aside and use all or part of the second day only if we have to.

Here's a list of possible participants

MNR

Bob Robinson
Mike Hall (Upper Vermilion Project and Wanipitae)
Wayne Selinger (Wabagishik only)
Erik Cobb

DFO

Carl Jorgensen and/or Kelly Eggert

NRSI

Rob Steele, Andrew Schiedel, Brett Woodman

Xeneca

Ed Laratta

OEL HydroSys

Tami Sugarman or designate

--

Robert J. Steele, B.Sc.
Senior Aquatic Biologist
Natural Resource Solutions Inc.
225 Labrador Drive, Unit 1
Waterloo, ON, N2K 4M8
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(f) 519.725.2575
(c) 519.577.1503
(e) rsteele@nrsi.on.ca
www.nrsi.on.ca

Xeneca
Power Development Inc.

5160 Yonge St., Suite 520, Toronto, ON M2N 6L9
tel 416-590-9362 fax 416-590-9955 www.xeneca.com

Field Conversations

Project Name/River: 1050 Wabagishik/ Vermilion R.

Date: 27-May-11

Scientist name: Brian Watson, Blair Baldwin NRSI

Speaking to: Tyler Scoyne, MNR employee in Espanola

Issues discussed/of concern:

Tyler observed a Sturgeon breach the surface of the water below the first rapids on the Vermilion River upstream of the Spanish River. This Sturgeon sighting was on Friday May 27, 2011 at 2100hrs. He also mentioned that most Sturgeon caught in this area have been less then 50cm in length.

Ministry of Natural Resources

Sudbury District Office
Northeast Region
Regional Operations Division

3767 Highway 69 South, Suite 5
Sudbury, ON P3G 1E7
Tel.: 705-564-7823
Fax: 705-564-7879

Ministère des Richesses naturelles

Bureau de district Sudbury
Région Nord-Est
Division des opérations régionales

3767 Route 69 Sud, bureau 5
Sudbury ON P3G 1E7
Tél. : 705-564-7823
Téléc. : 705-564-7879

RECEIVED
OCT 14 2011

Ontario

October 7, 2011

Patrick Gillette
Xeneca Power Development Inc.
5255 Yonge Street, Suite 1200
North York, Ontario
M2N 6P4

Dear Mr. Gillette:

Subject: Proposed Site Release Applications in Sudbury MNR District
1) Wabageshik, Site 2CF12 and 2) Allen & Struthers, Site 2DB14

Thank you for your letter and attachments of September 15, 2011 providing Xeneca's summary of Business to Business engagement efforts with Identified Aboriginal communities on the two (2) subject waterpower projects.

The Sudbury MNR is in the process of reviewing the information provided and will be assessing the efforts made by both Xeneca and the Identified Aboriginal communities to reach an agreement. As part of our review, we will be contacting the Identified Aboriginal communities to obtain their feedback on the efforts made to reach a business agreement. Sudbury MNR staff may contact you or Dean Assinewe during our review to obtain clarification on the information provided.

Upon completion of our review, Xeneca will be informed on the Sudbury MNR's decision around site release for these two sites. In the meantime, we encourage you to continue efforts toward reaching agreements with the Identified Aboriginal communities. Should you have any questions, please contact Rick Reynen (705-564-7847) at this office.

Yours truly,

Ed Tear
District Manager
Sudbury District

Cc Dean Assinewe, Xeneca
Cc Rick Reynen, Sudbury MNR
Cc Bob Robinson, Sudbury MNR

Ministry of Natural Resources – Sudbury District, Espanola Area Team
Review of Project Description Updates – Wabagishik Rapids Feb 2012)

There are two important changes presented in the updated project description: modification of proposed access/transmission corridors and modification of dam location/design resulting in a lake coupled scenario.

Access / Transmission Corridors

Lands & Forests Comments

- Company needs to identify why they can not use the existing road for access and construction of power lines.
- There is no justification for the loss of productive forest land by the construction of a new road corridor and or power corridor.
- Do we really need more roads on crown land when there is an existing road?
- The Espanola Area Team would not normally approve a work permit application for the construction of a road when there is one already in place that the proponent could use.
- Best option would be using any existing roads such as the Panache Lake Road instead of creating new corridors.
- Any power lines constructed along existing roads should be constructed on the south side of the road to assist the road drying out quicker in the spring.
- Values map (ArcMap) review identified that there are no Lands issues with any of the options chosen for the access and power lines.
- Work Permits are required for both the creation of new access roads and power lines and part of that process would be that they have sufficiently met any EA obligations. At that time we can take a more formal review.
- How wide they are the proposed transmission line corridors?
- Recommend the company consult with any land owners that may be affected even if the lines go near private land.
- With one of the options they are crossing the rail line so will have to consult the rail line owner.

Fish & Wildlife Comments

- The new route south to Panache Lake Road is aligned between Elizabeth and Augusta Lakes. The only significant site specific value potentially affected by the new route is Elizabeth Lake. The proposed road corridor is immediately adjacent to this cold water lake and an appropriate setback would need to be maintained. Given steep slopes in the area, suggest minimum set back of 90 metres.
- The original route would result in lesser disturbance of crown values - it should be maintained as an alternative and further explored as the project unfolds.
- For the various transmission corridor options presented, impacts associated with creation of new corridors affecting new values and opening up new landscape can be mitigated by following existing and/or proposed access roads to the extent possible. As such, Distribution Route Options 2, 4, and 5 would seem poor choices. Option 1 or the original option following the pre-existing road south to Panache Lake Road west of Elizabeth Lake (see above), would seem to be better choices. One significant site specific concern related to Option 2 would be potential impact to the large wetland complex located between Elizabeth and Brazil Lakes. This wetland area serves as pike / perch / largemouth bass spawning habitat and supports a wide range of terrestrial species including a variety of waterfowl, furbearers, reptiles, and amphibians. The Espanola Area Team would not support significant alteration of this value.

Upstream and Downstream Zone of Influence (ZOI) & Water Level Fluctuations

The project description has been updated to reflect a lake coupled design involving modification of daily and potentially seasonal water levels on Wabagishik Lake. The upstream zone of influence (ZOI) for the

proposed facility clearly includes the lake. The proponent has maintained to date that there will be no affect on seasonal lake levels (beyond a 10cm daily fluctuation); however, the HEC RAS modelling presented does not seem to support this assertion. The modelling forecasts an increased lake level of up to 0.5m at long term average flow (LTAF) conditions albeit negligible affects at 1:100 flood conditions. LTAF predictions better reflect what we can expect to see under normal conditions and will drive many of the potential social and aquatic ecosystem impacts associated with the project. In addition to potential affects on riparian rights and ecosystem values associated with flooding and fluctuation (e.g. changes to wetted littoral zone habitat and increased shoreline erosion), there may also be an affect on the riverine segment between the Lorne Falls generating station and the lake. This is a very important fisheries consideration as this fast water area is the primary spawning site for Wabagishik Lake walleye. It no doubt also serves as important benthic production / fish foraging habitat. While we understanding that the modelling presented may be preliminary in nature, the extent and impact of daily and seasonal fluctuation of lake levels needs to be better articulated both to review agencies and to the public as EA and LRIA approval processes unfold.

A lake coupled scenario also significantly increases the potential for dramatic fluctuation of downstream discharge. The downstream ZOI or variable flow reach has yet to be properly defined. Neither the draft operating plan for the site nor the information presented to the public at the last PIC in Espanola adequately reflect / report a true downstream ZOI. The assertion that the small lake-like feature or plunge pool immediately downstream of the proposed facility will attenuate flows and that the effects of variable flows due to intermittent operation will not be noticeable beyond this point is unsubstantiated to say the least. Common sense suggests that, as an absolute minimum, the variable flow reach would extend downstream ~ 3.5km to the plunge pool at the base of the 2nd set of rapids; however, it is plausible that the ZOI extends further downstream to the confluence with the Spanish River.

The magnitude of daily fluctuation of downstream flows during periods of modified or intermittent peaking operation could be significant especially with a lake coupled design (potentially 100 fold changes to flows over a 24 hour period based on the draft operating plan). Furthermore, it is not clear at this point whether the proposed pulse operation will occur once per day or multiple times per day. Regardless of frequency, the impact of this manipulation on downstream habitat will be substantial. We acknowledge Xeneca's commitment for 'true' run of the river operation during the walleye spawning / incubation period (April 1st to June 15th, longer if sturgeon are detected), but what about other times of the year? The impact of daily water level / velocity fluctuation on productivity (consistently wetted habitat, substrate modification related to erosion & sediment transport, loss of vegetation, dewatering and/or dislodging of benthic invertebrates, cyprinid production, etc.) will be significant and clearly needs to be evaluated. There are a wide variety of habitats within the variable flow reach that will be affected. In addition to the identified spawning habitat immediately below the proposed facility and the 2nd set of rapids ~ 3.5km downstream, potential impact to the full range of habitat types / channel profiles available (e.g. wetland area) must be considered in order to inform decisions around ecologically appropriate minimum flows, HADD, and habitat compensation. Other potential impacts associated with daily peaking (i.e. ice scour, stranding of fish, etc.) also need to be addressed.

In addition to the above concerns stemming from the most recent updates to the project description, we would like to take the opportunity to reiterate the following fisheries considerations.

Fish Passage

As previously articulated (Fisheries Management Objectives and Potential Fish Passage Concerns for the Proposed Wabagishik Falls Hydroelectric Facility, W. Selinger - May 24th, 2011):

> *"The extent of fish movement between the Vermillion and Spanish Rivers below Wabagishik Rapids and Wabagishik Lake is unknown. Anecdotal and survey evidence would support the assumption that Lake Sturgeon do not move upstream as far as Wabagishik Lake; however, we have no evidence whatsoever to confirm or discount movement of other species. Given that there are no obvious barriers (i.e. significant waterfalls) movement is plausible and Xeneca should take further steps to evaluate this potential concern."*

Fisheries Habitat Implications and Compensation

Although the location of the proposed dam has been moved upstream, the footprint, channel blockage, and flooding of fast water habitats associated with the dam will still result in a loss of walleye / sucker spawning and benthic production / fish foraging habitats. The extent of this alteration is sizeable and has yet to be quantified but formal compensation will clearly be required and enhancement of existing fast water habitats immediately below the proposed dam will not likely be sufficient.

Lake Sturgeon

The spawning surveys conducted in spring 2011 do not rule out the presence of sturgeon or habitat use within the ZOI of this project. Sturgeon are notoriously hard to assess and the effort that would need to be expended to rule out presence or come to any defensible decisions on movement patterns & habitat use would be very high given relatively low numbers of fish in the system and 5 years give or take between successive spawning events for individual sturgeon. Additional preconstruction surveys should be undertaken as project timing permits. Post construction monitoring will also be required. Should sturgeon be documented at the site at any point in the future, adjustment of operating procedures may be required to meet the biological needs of this SARA listed species.

Natalie St-Pierre

From: Robinson, Bob L. (MNR) [Bob.L.Robinson@ontario.ca]
Sent: July 24, 2012 2:19 PM
To: Muriel Kim
Subject: RE: Proposed Wabageshik Rapids waterpower project - Upcoming distribution of the DRAFT Environmental Report

For Sudbury District - MNR, I al still the contact. 1 copy + 1 CD is fine. Feel free to call to confirm. Bob Robinson 705-564-7868

From: Muriel Kim [mailto:mkim@wesa.ca]
Sent: July 24, 2012 10:53 AM
To: kelly.eggers@dfo-mpo.gc.ca; stephanie.davis@ceaa-acee.gc.ca; lisa.mcdonald@tc.gc.ca; EACoordination_ON@inac-ainc.gc.ca; sheryl.lusk@ec.gc.ca; Caitlin.Scott@NRCan.gc.ca; john.woodward@cta-otc.gc.ca; Cramm, Ellen (ENE); Robinson, Bob L. (MNR); Webber, Gerry (MTCS); Lillie-Paetz, Jennifer (MNDM); Smith, Brett (ENERGY); Pickles, David (MAA); Marleau, Paul (MTO); paul.sajatovic@sudbury.ca
Cc: Tami Sugarman; Kai Markvorsen
Subject: Proposed Wabageshik Rapids waterpower project - Upcoming distribution of the DRAFT Environmental Report

Good afternoon,

We will soon be distributing the DRAFT Environmental Report (ER) for the proposed Xeneca Power Corporation Inc. waterpower development at the Wabageshik Rapids Project site located on the Vermilion River.

The proposed undertaking is subject to the Class Environmental Assessment for Waterpower Projects as a new project on a managed waterway. While there is no formal requirement for a draft ER in the Class EA for Waterpower Projects, this document will be circulated to key parties in order to facilitate an efficient regulatory review of the final document.

We would like to confirm that you continue to be the appropriate one-window contact at your organization, and whether there are additional individuals within your organization whom you believe should also receive a copy of the draft ER. We are planning to distribute one hard copy and one CD-ROM to each regulator on our contact list; please let us know if you would like to receive additional copies, or if only one form of the report (hard copy or CD-ROM) would suffice.

I will follow up this message with a phone call within the next couple of days to confirm your participation in the review process.

Best regards,
Muriel Kim

WESA
A Better Environment for Business
Muriel Kim M.Sc.
Environmental Scientist
(T) (613) 839-3053 x261 (C) (613) 294-3886 mkim@wesa.ca www.wesa.ca

Natalie St-Pierre

From: Uwe Roeper [uroeper@ortech.ca]
Sent: July 25, 2012 3:45 PM
To: Selinger, Wayne (MNR)
Cc: Mark Holmes (at xeneca); Robinson, Bob L. (MNR); Cobb, Eric (MNR); Richard, Bruce (MNR); Nava Pokharel; Ed Laratta; Tami Sugarman; Grace Yu; Andrew Schiedel; Riche, Brian (MNR); O'Farrell, Brendan (MNR); Selinger, Christine (MNR); Tami Sugarman; Kai Markvorsen
Subject: RE: Transects, Profiles, and Flows

Hi Wayne:

Thanks for the follow up and the clarification of the section locations. Nava is working on pulling up the detailed model info and we should have some cross-sections for you in a few days. The Spanish will be part of the discussion. We have also decided to go into the field early next week to retrieve our water level data (at lake, downstream of Wabageshik and downstream of Graveyard).

Your comments on the amplitude during low flow seasons are consistent with your comments in the meeting. We understand that this is your objective and we will try our best to work with you. I realize that we are far apart, but I am optimistic that we can find some common ground. We are eager to have this discussion and get it resolved.

Best regards,
Uwe.

Uwe Roeper

From: Selinger, Wayne (MNR) [mailto:wayne.selinger@ontario.ca]
Sent: July 25, 2012 1:53 PM
To: Uwe Roeper
Cc: Mark Holmes (at xeneca); Robinson, Bob L. (MNR); Cobb, Eric (MNR); Richard, Bruce (MNR); Nava Pokharel; Ed Laratta; Tami Sugarman; Grace Yu; Andrew Schiedel; Riche, Brian (MNR); O'Farrell, Brendan (MNR); Selinger, Christine (MNR)
Subject: RE: Transects, Profiles, and Flows

Good Day Uwe,

I took some time today to review the transects suggested by Brendan. For the most part, I support the suggested locations for the profile and wetted perimeter analysis however I do have a couple of suggestions.

Transects -3+ 343 and -3+ 997 are located just above and just below Graveyard Rapids but the fast water feature itself seems to be a gap. I would suggest that Xeneca / NRSI add another transect(s) to evaluate degree of change within the rapid segment … perhaps one or two of the following: -3+ 490, -3+ 539, -3+ 625, and/or -3+ 927.

I would also suggest that you further explore and articulate the extent of impact to river profile / wetted perimeter below the confluence with the Spanish / above Espanola. I realize that this section of water is already affected by INCO operations upstream and manipulation of the Domtar Dam in Espanola but you will need to demonstrate that your impact is negligible when added to these sources.

As per our discussion last Thursday, we have a lot to resolve on the flow manipulation front. Let us know when you are ready to further the needed dialogue. Bottom-line, you will need to reduce the magnitude or amplitude of proposed daily fluctuation. There would seem to be several ways to get at this … reduce the highs and increase the lows. At this point, my position on minimum or environmental flows remains unchanged from our biological scoping meeting in May 2011;

specifically, we advocate monthly Q80 flows to ensure the integrity of the aquatic ecosystem below the facility. You also need to ensure that you do not exceed monthly high flows during generation cycles. Ramping up to bank full freshet like flows in August is not acceptable either. Perhaps you should target staying between the 20th and 80th percentiles of normal monthly flows. I would like to be clear that we are not suggesting that higher minimum or environmental flows need be wasted. Given that the turbine and dam are coupled in the design (i.e. no bypass) much of the agreed upon environmental flow could be passed through a low flow turbine and still benefit the river downstream. The above is intended to be food for thought and to clarify my present position on the matter. I am prepared to discuss further but we are a long ways apart at present.

Regards,

Wayne Selinger
Espanola Area Biologist
OMNR – Sudbury District
(705) 869-6488

From: Uwe Roeper [mailto:uroeper@ortech.ca]
Sent: Saturday, July 21, 2012 12:29 PM
To: O'Farrell, Brendan (MNR)
Cc: mholmes@xeneca.com; Selinger, Wayne (MNR); Robinson, Bob L. (MNR); Cobb, Eric (MNR); Richard, Bruce (MNR); Nava Pokharel; Ed Laratta; Tami Sugarman; Grace Yu; Andrew Schiedel
Subject: Re: Transects and Profiles

Brendan, thanks for the locations. I was really pleased to get into some meaningful discussion on this issue. We will work up the information and then follow up with you. Let's see if we can get this hashed out to a point where it is acceptable to everybody.

Uwe.

Uwe Roeper, M.Sc., P.Eng.
Sent from mobile device.

On 2012-07-20, at 12:01, "O'Farrell, Brendan \(MNR\)" <Brendan.O'Farrell@ontario.ca> wrote:

> Good morning Uwe,
>
> As discussed, we would very much appreciate it if you can run the models and simply ***illustrate*** what the downstream water levels (and if possible include velocities) will be at certain flows at least for the following locations. Although more is better, for us to fully understand the relationship between flows and resulting levels and therefore potential impacts these locations are required.
>
> Station Number
>
> - 0+091
> - -0+105
> - -0+462
> - -1+452
> - -3+343
> - -3+997
>
> I have chosen these locations based on our knowledge of existing prime spawning habitat where it will be essential that we understand how levels relate to flows but also transects were chosen that will just simply paint a picture and enable us to get a better handle on how levels may relate to the overall ecology of the downstream ZOI.

Although feel free to illustrate this however you feel is best but we would appreciate a simple "profile view" for each station showing level at flow with a velocity side bar and an overview map illustrating the same. 3 location maps showing wetted perimeter would be very helpful and they should be:

- Map 1 - Proposed dam location downstream to 0+000
- Map 2 - 0+798 upstream to 0+000
- Map 3 - Graveyard Rapids from -3+434 to -3+927

It was great to meet you and the rest of the team yesterday and thanks again for your time into this.

Brendan

Brendan O'Farrell
Renewable Energy Planning Biologist
N/E Region - Ministry of Natural Resources
3767 Highway 69 South, Ste 5
Sudbury, ON
P3G 1E7
Office: (705) 564-7843
Cell: (705) 618-4328
brendan.o'farrell@ontario.ca

To serve you best, please arrange for an appointment by calling ahead!

Natalie St-Pierre

From: Selinger, Wayne (MNR) [wayne.selinger@ontario.ca]
Sent: July 25, 2012 10:06 AM
To: Muriel Kim
Subject: RE: Proposed Wabageshik Rapids waterpower project - Upcoming distribution of the DRAFT Environmental Report

Thanks Muriel,

I appreciate being kept in the loop. Bob Robinson is still our primary contact and it would be up to Bob to reply re: format of submission as per your original e-mail.

Wayne

From: Muriel Kim [mailto:mkim@wesa.ca]
Sent: Wednesday, July 25, 2012 9:10 AM
To: Selinger, Wayne (MNR)
Cc: elaratta@xeneca.com
Subject: FW: Proposed Wabageshik Rapids waterpower project - Upcoming distribution of the DRAFT Environmental Report

Hello Wayne,

Ed Laratta requested that you be included on the CC list for correspondences concerning Xeneca's proposed Wabageshik Rapids waterpower project. As such, please see below the notice that was distributed to federal and provincial agencies regarding the upcoming distribution of the draft Environmental Report.

Regards,
Muriel

Muriel Kim - Environmental Scientist - (613) 839-3053 x261

From: Muriel Kim
Sent: July-24-12 10:53 AM
To: 'kelly.eggers@dfo-mpo.gc.ca'; 'stephanie.davis@ceaa-acee.gc.ca'; 'lisa.mcdonald@tc.gc.ca'; 'EACoordination_ON@inac-ainc.gc.ca'; 'sheryl.lusk@ec.gc.ca'; 'Caitlin.Scott@NRCan.gc.ca'; 'john.woodward@cta-otc.gc.ca'; 'ellen.cramm@ontario.ca'; 'bob.l.robinson@ontario.ca'; 'gerry.webber@ontario.ca'; 'jennifer.lillie-paetz@ontario.ca'; 'brett.smith@ontario.ca'; 'David.Pickles@ontario.ca'; 'paul.marleau@ontario.ca'; 'paul.sajatovic@sudbury.ca'
Cc: Tami Sugarman; Kai Markvorsen
Subject: Proposed Wabageshik Rapids waterpower project – Upcoming distribution of the DRAFT Environmental Report

Good afternoon,

We will soon be distributing the DRAFT Environmental Report (ER) for the proposed Xeneca Power Corporation Inc. waterpower development at the Wabageshik Rapids Project site located on the Vermilion River.

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Waterpower Projects, this document will be circulated to key parties in order to facilitate an efficient regulatory review of the final document.

We would like to confirm that you continue to be the appropriate one-window contact at your organization, and whether there are additional individuals within your organization whom you believe should also receive a copy of the draft ER. We are planning to distribute one hard copy and one CD-ROM to each regulator on our contact list; please let us know if you would like to receive additional copies, or if only one form of the report (hard copy or CD-ROM) would suffice.

I will follow up this message with a phone call within the next couple of days to confirm your participation in the review process.

Best regards,
Muriel Kim

WESA
A Better Environment for Business
Muriel Kim M.Sc.
Environmental Scientist
(T) (613) 839-3053 x261 (C) (613) 294-3886 mkim@wesa.ca www.wesa.ca

NOTE: If you are not the intended recipient of this e-mail, please delete it immediately. Unauthorized transmission of this e-mail is prohibited.

Danielle Dempsey

From: Greenaway, Christine (MNR) <Christine.Greenaway@ontario.ca>
Sent: July-30-12 10:39 AM
To: Muriel Kim
Subject: RE: Proposed Blanche River waterpower project - Upcoming distribution of the DRAFT Environmental Report

Yes please, thanks.

Christine Greenaway
A/ Renewable Energy Coordinator
Northeast Region
Ontario Ministry of Natural Resources
Hwy 101 East
South Porcupine, ON P0N 1H0
Phone: (705) 235-1185
Fax: (705) 235-1246
Email: Christine.Greenaway@Ontario.ca

From: Muriel Kim [mailto:mkim@wesa.ca]
Sent: July 30, 2012 10:11 AM
To: Greenaway, Christine (MNR)
Subject: RE: Proposed Blanche River waterpower project - Upcoming distribution of the DRAFT Environmental Report

Hello Christine,

Thank you for your email. I wanted to verify whether the MNR NER office will also be needing copies of the draft environmental report for the proposed Wabageshik Rapids project on the Vermilion River?

Thanks,
Muriel

Muriel Kim - Environmental Scientist - (613) 839-3053 x261

From: Greenaway, Christine (MNR) [mailto:Christine.Greenaway@ontario.ca]
Sent: July-26-12 11:58 AM
To: Muriel Kim
Subject: RE: Proposed Blanche River waterpower project - Upcoming distribution of the DRAFT Environmental Report

Hi Kim,

If possible it would be very helpful if the MNR NER office could receive 2 copies, or at least 1 copy. Similar to what Shawn mentioned this will help to reduce our review time and enable a more productive review.

Thanks,

Christine Greenaway
A/ Renewable Energy Coordinator
Northeast Region
Ontario Ministry of Natural Resources
Hwy 101 East
South Porcupine, ON P0N 1H0
Phone: (705) 235-1185
Fax: (705) 235-1246
Email: Christine.Greenaway@Ontario.ca

From: Walker, Shaun (MNR)
Sent: July 25, 2012 10:41 AM
To: 'Muriel Kim'
Cc: Greenaway, Christine (MNR)
Subject: RE: Proposed Blanche River waterpower project - Upcoming distribution of the DRAFT Environmental Report

Hi Kim,

Thanks very much for this review opportunity. I am the 'appropriate one window contact' for the Kirkland Lake District MNR office. If we were able to get two hard copies it would certainly help to reduce our review time and likely result in a more detailed / productive review.

Note that my comments / request above pertain only to the MNR's Kirkland Lake office. I suspect that my colleagues in the Northeast Regional office may have additional requirements and have cc'd them on this message expecting that they will follow up with you accordingly.

Thanks again Kim,

Shaun Walker
District Planner
Kirkland Lake District
Ministry of Natural Resources
(705) 568-3231

From: Muriel Kim [mailto:mkim@wesa.ca]
Sent: Tuesday, July 24, 2012 10:55 AM
To: kelly.eggers@dfo-mpo.gc.ca; stephanie.davis@ceaa-acee.gc.ca; lisa.mcdonald@tc.gc.ca; EACoordination_ON@inac-ainc.gc.ca; katherine.hess@hc-sc.gc.ca; sheryl.lusk@ec.gc.ca; Caitlin.Scott@NRCan.gc.ca; Webb, Tina (ENE); Walker, Shaun (MNR); Webber, Gerry (MTCS); Lillie-Paetz, Jennifer (MNDM); Smith, Brett (ENERGY); Pickles, David (MAA); Marleau, Paul (MTO)
Cc: Tami Sugarman; Kai Markvorsen
Subject: Proposed Blanche River waterpower project - Upcoming distribution of the DRAFT Environmental Report

Good afternoon,

We will soon be distributing the DRAFT Environmental Report (ER) for the proposed Xeneca Power Corporation Inc. waterpower development on the Blanche River (Marter Township).

The proposed undertaking is subject to the Class Environmental Assessment for Waterpower Projects as a new project on a managed waterway. While there is no formal requirement for a draft ER in the Class EA for Waterpower Projects, this document will be circulated to key parties in order to facilitate an efficient regulatory review of the final document.

We would like to confirm that you continue to be the appropriate one-window contact at your organization, and whether there are additional individuals within your organization whom you believe should also receive a copy of the draft ER. We are planning to distribute one hard copy and one CD-ROM to each regulator on our contact list; please let us know if you would like to receive additional copies, or if only one form of the report (hard copy or CD-ROM) would suffice.

I will follow up this message with a phone call within the next couple of days to confirm your participation in the review process.

Best regards,
Muriel Kim

WESA
A Better Environment for Business
Muriel Kim M.Sc.
Environmental Scientist
(T) (613) 839-3053 x261 (C) (613) 294-3886 mkim@wesa.ca www.wesa.ca

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Danielle Dempsey

From: Uwe Roeper <URoeper@ortech.ca>
Sent: August-14-12 10:04 AM
To: Greenaway, Christine (MNR)
Cc: Mark Holmes; Ed Laratta; Grace Yu; Tami Sugarman; Robinson, Bob L. (MNR)
Subject: RE: Xeneca & WMP process

Christine:

Yes, it is my understanding that the Op Plans will be part of the ER docs posted for public review (after agency discussions).

We would like some guidance from MNR as to the WMP SAC involvement. Xeneca would be pleased to present to the SACs or circulate the Op Plans to them. I believe the 2012 priority projects affect the following WMP / SACs.

- Mattagami WMP (Kap. R. and Ivanhoe R. projects).
- Spannish/Vermillion WMP (Wabageshik)
- Abitibi WMP (Wanatango)

Any suggestions that you have on how to best engage with these WMP / SACs would be appreciated.

Uwe.

From: Greenaway, Christine (MNR) [mailto:Christine.Greenaway@ontario.ca]
Sent: August 14, 2012 8:27 AM
To: Uwe Roeper
Cc: Mark Holmes; Ed Laratta; Grace Yu; Tami Sugarman; Robinson, Bob L. (MNR)
Subject: RE: Xeneca & WMP process

Thanks Uwe,

I will look into this and get back to you. It the ops plan part of the draft ER that will be shown to the public?

Regards,

Christine Greenaway
A/ Renewable Energy Coordinator
Northeast Region
Ontario Ministry of Natural Resources
Hwy 101 East
South Porcupine, ON P0N 1H0
Phone: (705) 235-1185
Fax: (705) 235-1246
Email: Christine.Greenaway@Ontario.ca

From: Uwe Roeper [mailto:URoeper@ortech.ca]
Sent: August 10, 2012 11:15 AM
To: Greenaway, Christine (MNR)
Cc: Mark Holmes; Ed Laratta; Grace Yu; Tami Sugarman; Robinson, Bob L. (MNR)
Subject: Xeneca & WMP process

Hi Christine:

At the Sudbury meeting about Wabageshik, we had a discussion about the regulatory reference to Water Management Plans (WMPs) that should be made in various places.

As we outlined at the meeting, since MNR raised this issue last year, we have taken an number of steps to follow up on this. These steps include:

- We reviewed which of our projects will affect existing or proposed WMPs.
- We included posters on WMP in our PICs.
- We contacted potentially impacted water users downstream.
- We added WMP to the title of the Op Plans.
- We included text in the Op Plans discussing the link to the WMP process.
- In the case of the Mattagami, we also met with the WMP SAC.

You indicated that you would like to review the text in the Op Plans on WMP. FYI, attached is the Op Plan for Wabageshik (text references in the others is very similar and we can provide others upon request). It would be good if you could look at the Op Plan text and see if it appropriately references the WMP process, or if you have some suggestions for making it even clearer. Or perhaps you have some other suggestions about steps we can take to make sure that the WMP process is adequately addressed. We look forward to your comments.

Best regards,
Uwe.

Uwe Roeper, M.Sc., P.Eng.
CEO
Xeneca Power Development Inc.
5255 Yonge St, Suite 1200
North York, M2N 6P4
Ontario, Canada
D. 416.590.3060
C. 647.929.1162

Danielle Dempsey

From: Robinson, Bob L. (MNR) <Bob.L.Robinson@ontario.ca>
Sent: August-20-12 9:35 AM
To: Mark Holmes; Selinger, Christine (MNR); Selinger, Wayne (MNR); Greenaway, Christine (MNR)
Cc: Cobb, Eric (MNR); Richard, Bruce (MNR); Riche, Brian (MNR); O'Farrell, Brendan (MNR); Uwe Roeper; Nava Pokharel; Ed Laratta; Andrew Schiedel; Tami Sugarman; Kai Markvorsen
Subject: RE: Transects, Profiles, and Flows

Hi Mark, we would like to set up a time to review these results with Xeneca. Will either of these dates work for you:

- Wed Aug 29, morning or afternoon
- Thursday Aug 30, afternoon

Regards, Bob Robinson

From: Mark Holmes [mailto:mholmes@xeneca.com]
Sent: August 13, 2012 2:34 PM
To: Greenaway, Christine (MNR); Selinger, Wayne (MNR); brendan.ofarrell@ontario.ca; bob.robinson@ontario.ca; Cobb, Eric (MNR); Richard, Bruce (MNR); Riche, Brian (MNR); Cobb, Eric (MNR)
Cc: Uwe Roeper; Nava Pokharel; Ed Laratta; Andrew Schiedel; Tami Sugarman; Kai Markvorsen
Subject: FW: Transects, Profiles, and Flows

August 13, 2012

Christine:

Here are the cross sections that Wayne Selinger requested during our July 25 meeting in Sudbury. We will need to work with the District to fully explain the results and then reach consensus on the appropriate operating regime.

We would suggest a follow up meeting with the core group (Wayne, Bob Robinson and yourself ?) the week of August 27 to walk through the reports, and, ultimately, reach some mutually acceptable decisions.

Best regards,

Mark Holmes
Vice President
Corporate Affairs
Xeneca Power Development

5255 Yonge St.
Suite 1200
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M2N 6P4
416-590-9362
416-590-9955 (fax)

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From: Nava Pokharel
Sent: Monday, August 13, 2012 1:51 PM
To: Mark Holmes
Cc: Uwe Roeper
Subject: RE: Transects, Profiles, and Flows

Mark,

We have completed additional analysis as requested by **Wayne Selinger and Brendan O'Farrell** . Please forward this information to them.

Thanks,
Nava

From: Uwe Roeper [mailto:uroeper@ortech.ca]
Sent: Wednesday, July 25, 2012 3:45 PM
To: Selinger, Wayne (MNR)
Cc: Mark Holmes; Robinson, Bob L. (MNR); Cobb, Eric (MNR); Richard, Bruce (MNR); Nava Pokharel; Ed Laratta; Tami Sugarman; Grace Yu; Andrew Schiedel; Riche, Brian (MNR); O'Farrell, Brendan (MNR); Selinger, Christine (MNR); Sugarman, Tami; Kai Markvorsen
Subject: RE: Transects, Profiles, and Flows

Hi Wayne:

Thanks for the follow up and the clarification of the section locations. Nava is working on pulling up the detailed model info and we should have some cross-sections for you in a few days. The Spanish will be part of the discussion. We have also decided to go into the field early next week to retrieve our water level data (at lake, downstream of Wabageshik and downstream of Graveyard).

Your comments on the amplitude during low flow seasons are consistent with your comments in the meeting. We understand that this is your objective and we will try our best to work with you. I realize that we are far apart, but I am optimistic that we can find some common ground. We are eager to have this discussion and get it resolved.

Best regards,
Uwe.

Uwe Roeper

From: Selinger, Wayne (MNR) [mailto:wayne.selinger@ontario.ca]
Sent: July 25, 2012 1:53 PM
To: Uwe Roeper
Cc: Mark Holmes (at xeneca); Robinson, Bob L. (MNR); Cobb, Eric (MNR); Richard, Bruce (MNR); Nava Pokharel; Ed Laratta; Tami Sugarman; Grace Yu; Andrew Schiedel; Riche, Brian (MNR); O'Farrell, Brendan (MNR); Selinger, Christine (MNR)
Subject: RE: Transects, Profiles, and Flows

Good Day Uwe,

I took some time today to review the transects suggested by Brendan. For the most part, I support the suggested locations for the profile and wetted perimeter analysis however I do have a couple of suggestions.

Transects -3+ 343 and -3+ 997 are located just above and just below Graveyard Rapids but the fast water feature itself seems to be a gap. I would suggest that Xeneca / NRSI add another transect(s) to evaluate degree of change within the rapid segment … perhaps one or two of the following: -3+ 490, -3+ 539, -3+ 625, and/or -3+ 927.

I would also suggest that you further explore and articulate the extent of impact to river profile / wetted perimeter below the confluence with the Spanish / above Espanola. I realize that this section of water is already affected by INCO operations upstream and manipulation of the Domtar Dam in Espanola but you will need to demonstrate that your impact is negligible when added to these sources.

As per our discussion last Thursday, we have a lot to resolve on the flow manipulation front. Let us know when you are ready to further the needed dialogue. Bottom-line, you will need to reduce the magnitude or amplitude of proposed daily fluctuation. There would seem to be several ways to get at this … reduce the highs and increase the lows. At this point, my position on minimum or environmental flows remains unchanged from our biological scoping meeting in May 2011; specifically, we advocate monthly Q80 flows to ensure the integrity of the aquatic ecosystem below the facility. You also need to ensure that you do not exceed monthly high flows during generation cycles. Ramping up to bank full freshet like flows in August is not acceptable either. Perhaps you should target staying between the 20th and 80th percentiles of normal monthly flows. I would like to be clear that we are not suggesting that higher minimum or environmental flows need be wasted. Given that the turbine and dam are coupled in the design (i.e. no bypass) much of the agreed upon environmental flow could be passed through a low flow turbine and still benefit the river downstream. The above is intended to be food for thought and to clarify my present position on the matter. I am prepared to discuss further but we are a long ways apart at present.

Regards,

Wayne Selinger
Espanola Area Biologist
OMNR – Sudbury District
(705) 869-6488

From: Uwe Roeper [mailto:uroeper@ortech.ca]
Sent: Saturday, July 21, 2012 12:29 PM
To: O'Farrell, Brendan (MNR)

Cc: mholmes@xeneca.com; Selinger, Wayne (MNR); Robinson, Bob L. (MNR); Cobb, Eric (MNR); Richard, Bruce (MNR); Nava Pokharel; Ed Laratta; Tami Sugarman; Grace Yu; Andrew Schiedel
Subject: Re: Transects and Profiles

Brendan, thanks for the locations. I was really pleased to get into some meaningful discussion on this issue. We will work up the information and then follow up with you. Let's see if we can get this hashed out to a point where it is acceptable to everybody.

Uwe.

Uwe Roeper, M.Sc., P.Eng.
Sent from mobile device.

On 2012-07-20, at 12:01, "O'Farrell, Brendan \(MNR\)" <Brendan.O'Farrell@ontario.ca> wrote:

> Good morning Uwe,
>
> As discussed, we would very much appreciate it if you can run the models and simply ***illustrate*** what the downstream water levels (and if possible include velocities) will be at certain flows at least for the following locations. Although more is better, for us to fully understand the relationship between flows and resulting levels and therefore potential impacts these locations are required.
>
> Station Number
>
> - 0+091
> - -0+105
> - -0+462
> - -1+452
> - -3+343
> - -3+997
>
> I have chosen these locations based on our knowledge of existing prime spawning habitat where it will be essential that we understand how levels relate to flows but also transects were chosen that will just simply paint a picture and enable us to get a better handle on how levels may relate to the overall ecology of the downstream ZOI.
>
> Although feel free to illustrate this however you feel is best but we would appreciate a simple "profile view" for each station showing level at flow with a velocity side bar and an overview map illustrating the same. 3 location maps showing wetted perimeter would be very helpful and they should be:
>
> - Map 1 - Proposed dam location downstream to 0+000
> - Map 2 - 0+798 upstream to 0+000
> - Map 3 - Graveyard Rapids from -3+434 to -3+927
>
> It was great to meet you and the rest of the team yesterday and thanks again for your time into this.
>
> Brendan

Brendan O'Farrell
Renewable Energy Planning Biologist
N/E Region - Ministry of Natural Resources
3767 Highway 69 South, Ste 5
Sudbury, ON
P3G 1E7
Office: (705) 564-7843
Cell: (705) 618-4328

Danielle Dempsey

From: Ed Laratta <elaratta@xeneca.com>
Sent: September-25-12 11:42 AM
To: Robinson, Bob L. (MNR); Cobb, Eric (MNR)
Cc: Greenaway, Christine (MNR); Tami Sugarman; Ed Laratta
Subject: RE: MNR Comments for the Wabageshik draft EA - TL

BOB and Eric,
I forgot to give you a heads up yesterday on an upcoming meeting we need with you and Eric Cobb (Wayne, and others?) concerning the environmental work on-going by KBM/Dowling/NBS Incs for developing preferred and final TL Routes and Access Roads. Someone from KBM will be calling you soon to set up a conference call; the intent would be to summarize nature of work done to date and further work to be done in 2013 and add SAR requirements to our work planning. Thank you and Eric for your help on this.
Their work has now advanced to the point of wetland assessments and initial cursory review of SAR data bases so it is timely we touch base on this before going any further.
ED

Edmond M. Laratta | Environment Department| **Xeneca Power Development Inc.**
5255 Yonge Street, Suite 1200, Toronto, ON, M2N 6P4; **Xeneca Tel**: 416 590 9362

Tel Direct: 416 590 3069| **Cell:** 416 856 3253| **Fax:** 416 590 9955 | **Email:** elaratta@xeneca.com

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From: Ed Laratta
Sent: September 24, 2012 3:09 PM
To: Robinson, Bob L. (MNR); Stephanie Hodsoll
Cc: Greenaway, Christine (MNR); Ed Laratta; Tami Sugarman
Subject: RE: MNR Comments for the Wabageshik draft EA

BOB,

Absolutely OK,

Thank You,

Ed.

Edmond M. Laratta | Environment Department| **Xeneca Power Development Inc.**
5255 Yonge Street, Suite 1200, Toronto, ON, M2N 6P4; **Xeneca Tel**: 416 590 9362

Tel Direct: 416 590 3069| **Cell:** 416 856 3253| **Fax:** 416 590 9955 | **Email:** elaratta@xeneca.com

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From: Robinson, Bob L. (MNR) [mailto:Bob.L.Robinson@ontario.ca]
Sent: September 24, 2012 2:38 PM
To: Ed Laratta; Stephanie Hodsoll
Cc: Greenaway, Christine (MNR)
Subject: MNR Comments for the Wabageshik draft EA

Ed, Stephanie: MNR is diligently working on finalizing comments for the Wabageshik draft ER review. We agreed on an extension to Sept 24th to provide comments, however we are still finalizing a few things. Are we ok to have comments to you by Sept 26th? Please indicate if this is a concern. Thank you, Bob Robinson

Bob Robinson
Project and Information Management Specialist
Ontario Ministry of Natural Resources
3767 Hwy 69 South, Suite 5
Sudbury, Ontario P3G 1E7

Phone (705) 564-7868
Fax (705) 564-7879
E-Mail: Bob.L.Robinson@Ontario.ca

In order for us to serve you better, please call ahead to make an appointment with our staff.

Muriel Kim

Subject: FW: MNR comments - Wabageshik draft EA Report
Attachments: MNR comments-Wabageshik Sept 28 2012.xls; MNR response-Wabageshik Sept 28 2012.pdf; MNR comments-Wabageshik Sept 28 2012.pdf

From: Robinson, Bob L. (MNR) [mailto:Bob.L.Robinson@ontario.ca]
Sent: September 28, 2012 4:17 PM
To: Ed Laratta; Stephanie Hodsoll
Cc: Greenaway, Christine (MNR); Cramm, Ellen (ENE); kelly.eggers@dfo-mpo.gc.ca
Subject: MNR comments - Wabageshik draft EA Report

Ed/Stephanie, please find attached MNR's response to the draft EA review for the Wabageshik project. I have also included the actual comments in spreadsheet form, which may aid in sorting etc.

Again, thank you for your patience as we finalized our comments. Regards, Bob R.

Bob Robinson
Project and Information Management Specialist
Ontario Ministry of Natural Resources
3767 Hwy 69 South, Suite 5
Sudbury, Ontario P3G 1E7

Phone (705) 564-7868
Fax (705) 564-7879
E-Mail: Bob.L.Robinson@Ontario.ca

In order for us to serve you better, please call ahead to make an appointment with our staff.

Ministry of Natural Resources

Sudbury District Office
Northeast Region
Regional Operations Division

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Fax: 705-564-7879

Ministère des Richesses naturelles

Bureau de district Sudbury
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3767 Route 69 Sud, bureau 5
Sudbury ON P3G 1E7
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Téléc. : 705-564-7879

Ontario

September 28, 2012

Stephanie Hodsoll
Public Affairs Liaison
Xeneca Power Development Inc.
5160 Yonge Street, Suite 520
Toronto, Ontario M2N 6L9

Dear Ms. Hodsoll:

RE: Review of Draft Environmental Report – Proposed Wabageshik Rapids Generating Station

Thank you for providing the Ontario Ministry of Natural Resources (MNR) the opportunity to review and comment on the draft Environmental Report (ER), dated August 2012, for the proposed Wabageshik Rapids Generating Station.

To assist Xeneca Power Development Inc. (Xeneca) with its environmental assessment (EA) MNR staff have completed a technical review of the draft ER based on MNR's mandated areas of responsibility. Enclosed are comments resulting from the review by MNR staff from the Sudbury District office and the Northeast Regional office. Principal findings are summarized below, with all comments attached to this letter. MNR welcomes further dialogue as you proceed with the EA process and the subsequent permitting and approvals process.

Anticipated Zone of Influence (ZOI)

When contemplating decisions in accordance with legislation associated with a proposed waterpower development, the MNR will require an understanding of the total anticipated ZOI boundary, proposed system alterations within that boundary, the associated impacts, and proposed mitigation strategies. It is also necessary that this information be used as the basis for conducting Aboriginal consultation and any public consultation that is required to support MNR's decision-making framework under various pieces of legislation.

At the time of this draft ER review, total consensus has not been reached on the ZOI and its potential effects. It remains unclear whether the effect of the proposed dam operations will be detectable beyond the confluence with the Spanish River, and particularly whether there will be impacts on downstream riparian owners. MNR recommends that Xeneca establish a full understanding of the anticipated effects of the proposed operations, to the point where they are no longer discernable from the reference state. We recognize that significant progress has been made towards a consensus, and look forward to continuing discussions on defining the downstream limit of a ZOI.

Authorizations under the *Lakes and Rivers Improvement Act* (LRIA)

A number of key concerns relating to MNR's mandate under the LRIA require further consideration. Specifically, impacts to shoreline & wetland dependant species, deer migration, fish and fish habitat, recreation, erosion potential and downstream riparian rights. The proposed operating plan, erosion potential assessment and hydrology studies presented in Annex I will help inform MNR when considering LRIA approvals, however, several comments are provided to improve MNR's understanding of the information that will be essential at the permitting phase of the project.

- Consideration of impacts to the aquatic ecosystem is required, with adequate water flows and levels provided for these values. Discussions between Xeneca and MNR have focused on providing water for the reproductive windows of key fish species, however, effects on the full range of habitat types and channel profiles (e.g. fast water habitats & wetland areas) and aquatic species need to be considered in order to inform decisions regarding appropriate operating strategies.

- The proposed operating plan as presented is incomplete. Efforts are on-going between Xeneca and MNR to address several aspects of the operating plan, however, this review also identifies rapid ramping rates, low environmental flows and uncertain water levels as aspects to be addressed. A dam operating plan typically describes the magnitude, duration, frequency, timing and rate of change of flows and levels, for water passed through the turbines and spillway. 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 complete dam operating plan deemed acceptable by the MNR will be required prior to the granting of approvals under the LRIA.

- It is unclear what shoreline erosion could result from proposed operation of the dam. MNR suggests that a full evaluation of erosion potential, including field verification, be completed and evaluated, with proposed mitigation where appropriate.

- Further examination of the hydrological modeling reveals uncertainty with actual versus modeled flows. Greater certainty around hydrologic flows and levels, in the context of an established zone of influence and riparian impacts, will aid in completing a proper assessment of inputs required for LRIA approval. As with the draft operating plan, MNR is providing comment in conjunction with the current efforts to address the hydrological work to date.

Water Management Planning

Through various sections of the ER, Xeneca has identified the need to prepare a water management plan in accordance with Section 23.1 of the LRIA. Recent amendments to the LRIA may result in changes to the way that LRIA approvals are sequenced and coordinated in the future. The MNR is currently contemplating new policy to support planning for the operations and maintenance of dams and to design a process that is better suited for new facilities. In the interim, it is expected that proponents can meet the intent of water management planning through the preparation of their ER and MNR's subsequent review and approval of the project under the LRIA.

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 operation of the facility and for the management of flows and levels in the river system. The boundary of the anticipated ZOI, the degree to which the system is proposed to be altered, and the potential effects and associated impact management strategies should be presented to allow potentially affected individuals the opportunity to communicate concerns. Early in the process, interested parties should have the opportunity to identify existing values and uses that can then be considered when setting objectives and constraints for the plan. 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.

Xeneca has included a draft operating plan and proposed water management plan amendment in its draft ER submission. As described above and in the detailed comments, efforts are ongoing between Xeneca and the MNR to come to a consensus on a dam operating strategy that will meet the purposes of the LRIA and other applicable legislation. It can be expected that the operating plan as proposed will be modified upon further discussion with agencies. For efficient consultation through the EA, we recommend that Xeneca first come to a consensus with agencies on options that are feasible with respect to the associated legislation, then use these options as a starting point for external consultation. Since you are preparing your final ER, we suggest you complete this step before initiating the final public review phase.

Finally, we remind Xeneca that the operation of the proposed facility will have to be aligned with the existing draft water management plan for the river system. A formal agreement or letter of consent will be required from the upstream and downstream dam operators.

Aboriginal Consultation

As per section 7.1 of the Class EA guide, Aboriginal consultation for related regulatory processes should be coordinated and harmonized.

It appears from statements in the ER that Xeneca has not yet completed the procedural aspects of Aboriginal consultation.

- Page 82 of the ER, in reference to letters provided by Xeneca to Aboriginal communities of May 13, 2011, "It was stated 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.
- In section 2.3 of the Aboriginal Consultation Plan states "The next step is to create a plan for future consultation and continued relationship building."

Based on the information contained in the ER, the MNR 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 Wabageshik proposal

- Demonstrate that all Aboriginal communities have received the appropriate information on the project and its impacts
- Show how 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
- Provide the follow up communications to the communities which explain Xeneca's response to their concerns

In the ER, it appears that consultation with Métis communities are ongoing and incomplete.

At this point in time, and until Xeneca provides an update to the Aboriginal communities' response to the ER review, the MNR is not in a position to evaluate whether or not the Crown's duty to consult has been met, nor can we advise what further actions by Xeneca would be necessary to enable the issuance of permits and approvals for this project to proceed. Public Information Centres are not necessarily the appropriate method to engage and consult with Aboriginal communities and may require further separate meetings.

Further consultation is at the discretion of the proponent at this stage of the process. However, prior to issuing permits and approvals, the MNR 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.

Species at Risk

The potential for species-at-risk (SAR) to be present occurs across several components of this proposal. MNR comments are directed at ensuring proper assessments are made to determine the presence and location of species-at-risk and their habitats, and to advise on the eligibility of *Endangered Species Act* (ESA) authorizations where appropriate. If ESA authorizations are to be issued, then this information will also serve as the basis for assessing the extent and nature of impacts as well as the amount of overall benefit that will be required. Therefore, it is important that these surveys are conducted during optimal seasonal and ambient conditions with the proper methodologies and effort. Findings arising from surveys that do not follow the recommended standards may be considered inconclusive, and result in the need for additional assessments, which could affect project timelines. To avoid this situation, we advise that Xeneca and/or its consultants contact the MNR Sudbury District SAR Biologist prior to any assessments to discuss survey protocols in detail.

MNR recognizes that some work has been completed to address the possibility of Lake Sturgeon being impacted by this development. Based on our current knowledge of Lake Sturgeon in this part of the watershed, it is likely that the Wabageshik Rapids Generating Station will be eligible for ESA authorizations however; MNR still encourages Xeneca to continue with their assessment efforts in order to increase certainty on how Lake Sturgeon and their habitats may be impacted by the facility.

Roads and Transmission Lines

The proposed access roads and transmission lines presented in Section 3.4 and Annex VI provide a preliminary outline for these project components, however, additional detail will be required. The following are the primary aspects considered necessary prior to MNR issuing permits for these activities:

- There is no evidence of any natural heritage assessments for the proposed road and transmission corridors. MNR will require that natural heritage assessments be completed for wildlife habitat and wetland features, including appropriate evaluation and mitigation measures, prior to issuing permits for work on Crown Land.

- There is no evidence that any SAR assessments have been completed for the proposed road and transmission corridors. MNR will require an appropriate level of assessment to determine the presence of species-at-risk, and to delineate habitat use by SAR if they are present. Where required, ESA authorizations will be needed prior to commencing work on both private and Crown lands. It is not necessary to complete all ESA permitting prior to EA completion, however, MNR encourages Xeneca to continue discussions with the MNR SAR Biologist to maximize efficiencies by harmonizing processes, to obtain advice on recommended survey protocols, and to ensure the timely issuance of authorizations.

- There are two options proposed for roads and transmission lines, however, there is no preferred option identified. MNR requires a full assessment of all options be completed where Crown land is subject to disposition. It is suggested that each option be evaluated with rationale as to why it is a preferred option or not a preferred option. MNR also encourages Xeneca to consider options that utilize existing corridors and infrastructure where possible.

- The evaluation of road and transmission options should also include an assessment of impacts to existing Crown land and resource users who could be affected by this proposal, and appropriate mitigation measures where required. In particular, the existing snowmobile trails and snowmobile bridges at the Vermilion River and Brazil Creek are existing uses of Crown land in the vicinity of this proposal, and will require due consideration within the planning process.

Terrestrial Biology

In addition to the comments made regarding roads and transmission lines, there are other terrestrial wildlife species and habitats within the proposal that require evaluation. The description of the Terrestrial Environment Characterization study boundary includes the upstream inundation and downstream variable flow reach areas, however, it is not clear if actual wildlife assessments were conducted beyond the desktop values identification exercise. Notably, wetland-dependant wildlife habitats have been omitted as candidate Significant Wildlife Habitat (SWH) from Annex III, which suggests that the downstream variable flow reach was likely not fully evaluated or considered during terrestrial studies. Additionally, the identified white-tailed deer travel corridors and crossings need to be acknowledged as SWH and appropriate mitigation strategies need to be established. MNR encourages Xeneca to consider the full range of natural heritage features that could be impacted by the proposal. Proper assessment of effects and mitigation will be required prior to issuing permits for work on Crown Land.

Monitoring

MNR suggests that a post-construction monitoring plan be integrated with the proposed development. 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. MNR is willing to participate in further discussions regarding monitoring plans and requirements, as net environmental effects and permitting requirements are further defined.

Conclusion

The ER as presented does not adequately consider MNR's mandate or provide for the requirements associated with MNR's permitting and approvals process. MNR encourages Xeneca to address these comments prior to releasing a final ER to the public and Aboriginal communities.

Should Xeneca choose to complete the proponent-led EA process without addressing MNR's comments, additional information and associated review will be required prior to the consideration of permits or approvals. This could result in significant project delays.

MNR's detailed comments are also provided as an attachment to this letter. We trust this review provides a clear outline of MNR's observations and concerns, and we look forward to providing further input as you proceed through the environmental assessment process.

Please contact Bob Robinson, Project and Information Management Specialist at (705) 564-7868 or bob.l.robinson@Ontario.ca if you require further clarification.

Sincerely,

Trevor Griffin
District Manager
Sudbury District

cc. Christine Greenway, MNR, Northeast Region
Ellen Cramm, MOE, Northern Region
Kelly Eggers, DFO

ID	Made By:	Comment:	Location (Binder)	Page	Section	Line(or Paragraph)
1711	CS	Scope of study needs to include entire Zone of Influence including the variable flow reach below the GS. This area includes wetland areas below GS and those associated with tributaries and embayments below Graveyard Rapids. Waterfowl Nesting Areas Moose Aquatic Feeding Turtle Nesting Amphibian Breeding Marsh Bird Breeding Snapping Turtle Overwintering all need to be reconsidered as candidate SWH.	Annex III	0	Appendix IX	0
1712	CS	Value of Deer Movement Corridor and Crossing need to be evaluated as SWH as per Table Q-4 in Appendix Q of SWH Technical Guide.	Annex III	0	Appendix IX	0
1478	CS	Surrounding topography and data presented suggest that the Wabagishik Rapids area is likely the most important and safest area from above Wabagishik Lake to below Espanola for deer to cross the Vermillion River. Timing of peek use during early spring and late fall/early winter suggests that this route is being used as an important travel corridor between seasonal habitats (winter yarding areas). Significance of this value needs to be included in report as Significant Wildlife Habitat.	Annex III	64	4.2.5	0
1706	CS	Three deer crossing locations were noted in the report of which 2 are going to be inundated by proposed dam. This will increase the value of the downstream crossing location for deer as SWH.	Annex III	64	4.2.5	0
1707	CS	Peak deer used was reported between 8 am and 3 pm. Magnitude of planned peaking flows are of concern during this time period. Suggestion that deer could cross durning night-time non-peaking hours does not reflect observed useage of this value.	Annex III	64	4.2.5	0
1708	CS	Lake Sturgeon need to be included in this section as this SAR is at greatest risk from planned operations.	Annex III	68	5.1	0
1709	CS	Snapping turtle habitat and deer corridor need to be included in this section as SWH.	Annex III	74	5.3.2	0
1713	CS	Deer Movement Corridor and Crossing need to be included in precautionary approach being taken to identification of SWH.	Annex III	77	6.1.1	0
1715	CS	Should be noted that flow changes resulting from dam structure have potential to impact deer crossing even if it is expected that dam footprint itself may not.	Annex III	80	6.2.1	0
1717	CS	This section acknoweleges that bay below proposed GS and tributaries as Candidate SWH for Turtle Overwintering but this is not carried through to Appendix IX tables. Note SWH Tech Guide only requires 1 overwintering snapping turtle to qualify as SWH.	Annex III	90	6.5.1	0
1719	CS	This section needs to reflect input provided regarding SWH and Deer Corridor and Crossing.	Annex III	119	7	0

1444	CS	References to nearest deer yards need to state 'nearest known deer yards' as this area has not been surveyed entirely for presence of deer yards and existing information is quite dated.	Annex III	63-64	4.2.5	0
1716	CS	December / January and March / April operations need to address requirements for deer crossing. The proposed variation and range of flows may need to be moderated to address this ecological function.	Annex III	88 - 89	6.5.1	0
1720	CS	Needs to be updated to reflect that there are areas of SWH involved within the Zone of Influence.	ER	0	Executive Su	0
1722	CS	Deer crossing and corridor discussion should identify these values as SWH.	ER	19	2.9.2	0
1723	CS	Need to include deer crossing and corridor as well as all wetland associated habitat funcitons as Candidate SWH as per input provided for Annex III Appendix IX comments. Confirmation of these candidate SWH values also needs to be reported in this section.	ER	22	2.9.7	0
1726	CS	Species at Risk section of Table 5 needs to include Lake Sturgeon concerns.	ER	90	5.1	0
1727	CS	Terrestrial Wildlife section of Table 5 needs to include Deer Migration Corridor under Operational Effects on Significant Wildlife Habitats.	ER	92	5.1	0
1724	CS	Need to include potential longer term impacts to deer crossing and corridor associated with peaking operations not just short term impacts associated with construction activities.	ER	108	5.1.5	0
1725	CS	Terrestrial Wildlife section of Table 6 needs to include deer crossing and corridor as SWH. This value should be considered Significant given topography of area and current useage reported in studies.	ER	121	6	0
1728	CS	Natural Vegetation and Habitat Linkage section of Table 6 classifies impacts of ongoing operations on deer crossing as not significant. This needs to be reconsidered given proposed extent of water level and flow fluctuation in Proposed Operation Plan.	ER	121	6	0
1593	DS	Correspondence logo with Whitefish Lake FN: no other way to reference: Letter April 15 2011 from White fish Lake lawyer to MNR copied to Xeneca: stated that First Nation position was that no consultation had occured to date.... requested info on MNR assessment of potential duty of consult. Made clear assertion that the project would have an adverse impact on the asserted and established Treaty rights of the community--however no further statement of specific infrnigement; nor evidence that Xeneca then informed MOE director of EAAB was informed of this as required in Class EA Section 7.3 page 68-69	Appendix E	0	0	0

1541	DS	ER section 4.5 Aboriginal Engagement does not follow the format stated by Xeneca in Appendx E Aboriginal Consultation Plan. section 2.6 page 13 and 14 This greatly complicates ability to evaluate effort towards the Crowns Duty to Consult...negatively affects ability to determine whether or not adequate effort or if more effort is required.	ER	79	4.5	0
1589	DS	Class EA requires the ER to provide specific documentation / Class EA section 4.4.1 ER: There is extensive logging of emails and letter from Xeneca to various Aboriginal communities. However there no summary of commmunity concerns/ issues and how Xeneca may have attempted to address them-- nor a statement that there were no actual concerns raised.	ER	79	4.5	1
1592	DS	Class EA requires ER to document changes to original proposal (project description) resulting from evaluation or consulation. It seems that the Project Description was sent out around Dec 2010 to Feb 2011. However on Feb 8th (pg 68) EA scope was expanded to include connection line-- it is not clear if a evised Project Description wish would form the basis for an initial impact assess by an Aboriginal community was then circulated. If it was not then it would be difficult to conclude that Aborigial communities had allinfo necessary to understand the project.	ER	79	4.5	0
1587	DS	Class EA requires that Notice of COmmencement be mailed to all Aboriginal communities listed. page 81 refers to July 8 2010 letter to 2 First Nations informing them that Xeneca was preparing the N of Commencement-- Not able to determine if Xeneca actually sent Notices of Commencement to all listing Aboriginal communities.	ER	81	0	1
1584	DS	Aboriginal Consultation Plan (ACP) sent out May 13 2011-- consultation to begin formally after Notice of Completion for a 30 day period. ACP is commonly understood to be necessary at beginning of process- on or before Notice of Commencement not Notice of Completion... ACP developed unilaterally by Proponent with no mention of Aboriginal community influence of its development... difficult to understand the delay to such a late date	ER	82	0	6
1586	DS	May 18 2011 first meeting with Metis Nation of Ontario. provided project description...continuing work to develop formal agreement Aboriginal consultation plan circulated to MNO AUg 18 2011. ' Not clear status of issues or duty related to Metis communities	ER	83	0	1

1582	DS	several reference to Lake Sturgeon and potential negative impact on them. (HADD) with more knowledge affter engineering details during permitting phase-- however a SAR Water Management Plan exemption permit will be required as some point-- this permit will require additional Aboriginal Consultation be conducted at that time. also see page 67-69 of ER (pg 69 MOE: all impacts must be identified in ER otherwise addendum EA document needed before permits issued)	ER	141	0	0
1391	EC	Another potential adverse impact can be the siltation of fish habitat located downstream of the project.	CMP	7	1.2	5
1392	EC	Timeline for start of construction needs to be adjusted.	CMP	33	1.5	3
1363	EC	Throughout the Environmental Report and associated documents information referencing the location of threatened and endangered species at risk should be kept general. For example Lake sturgeon should only be acknowledged as being in the Vermillion and Spanish Rivers. Information such as UTM coordinats lats & longs identifiable or known features or distances from known or identifiable features etc. should be removed from publicly accessible documents and provided to the appropriate agency as a seperate report.	ER	0	0	0
1362	EC	Inconsistent use of formatting (i.e. captilization) to display species names throughout the document.	ER	0	0	0
1364	EC	Consultation with MNR also indicated that high potential for Eastern Whip-por-will and Chimney Swift to be present in the project area specifically in locations where access roads and transmission liens will be built. This is not reflected in document . These two species should be added to the list. Also Eastern Meadowlark is a recent species added under O.Reg 242/08 (SARO List) which shares similar habitats as Bobolink which is a species acknowledged in the ER. May wish to add.	ER	17	2.9	0
1366	EC	The study area is defined as the predicted zone of influence of the facility plus 120 m from the shoreline; yet the project area also includes access roads and transmission lines. This makes an assessment of the information contained in the rest of section 2.9 confusing and may explain why a couple of species at risk that should have been listed. Eastern Whip-poor-will and Chimney Swift may not be expected to be found at the waterpower site but they are more likely to be discovered in areas where the access roads and transmission lines are going to be built.	ER	17	2.9.1	6
1365	EC	As per Comment #1364 Eastern Whip-poor-will and Chimney Swift should be added to this list. The addition of Eastern Measdowlark is suggested as well.	ER	22	2.9.6	2

1367	EC	I did not see a report summarizing the analysis examing turbine type and efficiency curves operating regime and economics. If this information is already available in the ER package or in a previous report please identify where it could be found. If it isn't the information should be required to rationalize the preferred option.	ER	41	3.3.5	1
1372	EC	Provide rationale for why Distribution Route Option # 1 and Road Option # 2 are not paired all the way to the generating station. Pairing them woud reduce the footprint and potentially the need for addtional surveys and other authorizations.	ER	44	3.4.3	2
1371	EC	Aerial photographs suggest that Road Option # 2 and Distribution Route # 1 may have less Whip-poor-will habitat present but there may be a greater risk of encountering Blanding's turtle due to the presence of a large wetland in the area. Blanding's turtle will have habitat protection June 30 2013 so any changes to water levels and quality and/or to the physical habitat could result in the need for an overall benefit permit. New road may also pose addtional mortality risks to turtles caused by traffic and/or maintenance activities.	ER	44	3.4.3	2
1370	EC	If protected species at risk and/or habitat are present then timing restrictions may be required for the construction and installation of access roads and transmission lines (i..e no construction during the active season - generally May 1 to September 30 depending on the species present).	ER	44	3.4.3	2
1369	EC	While transmission lines may not result in the damage or destruction of ESA habitat access roads might. An ESA overall benefit permit may be required for species that have habitat protection (e.g. Eastern Whip-poor-will). One requirement of the permit is to demonstrate that no other feasible options were available.	ER	44	3.4.3	2
1368	EC	Aerial photos indicate that suitable Eastern Whip-poor-will habitat may be present along Road Option #1 and Alternate Distribution Route # 2. Whip-poor-will has general habitat protection.	ER	44	3.4.3	2
1397	EC	Construction schedule indicates that road construction will start January 2014. Once species at risk surveys are completed next spring there will be approximately 6 months to prepare and issue an ESA permit if needed.	ER	45	3.5	2
1373	EC	First row on impacts to Species at Risk doesn't identify the species at risk. Lake sturgeon should be identifed as the species potentially being affected.	ER	90	Table 5	2
1374	EC	Clarify statement 'effect on species and their habitat on a regional level is ...negligible'. What geographic scale is being referenced?	ER	90	Table 5	2

1375	EC	The habitat at the proposed waterpower site has the potential to be the best spawning habitat available to the sub-population of Lake Sturgeon currently residing in the Spanish-Vermillion river system. The potential imapct should not understated and will be a consideration in achieving overall benefit for the species.	ER	90	Table 5	2
1376	EC	The ability for Lake Sturgeon to access Wabagehsik Lake has not been conclusively dismissed. Although the the Natural Environment Characterization Report stated that it is unlikely for sturgeon to pass through the upper reaches of Wabageshik Rapids the report acknowledges that it is possible under the right conditions. Suitable spawning conditions at Lorne Falls for sturgeon may exist. The ER needs to acknowledge the possibility of affecting movement and propose how to deal with it.	ER	90	Table 5	2
1378	EC	Potential impacts to species at risk resulting from the construction of access roads and power lines are not identified. Both Whip-poor-will and Blanding's turtles could be negatively affected by the proposed activities.	ER	90	Table 5	0
1377	EC	More information required on how the compliance range of 30 cm (+/- 15 cm) will affect water depth in Tributary B. What is the expected range during the over-wintering season (i.e. Oct 1 - April 30)? For example if turtle is over-wintering in 20 cm of water and it drops 15 cm the remaining depth may not be sufficient for turtle to survive.	ER	90	Table 5	3
1379	EC	For Lake Sturgeon compensatory habitat alone will not be sufficent to meet overall benefit if an ESA 17(2)(c) permit is issued. The creation of addtional habitat and/or some other recovery actions may be required.	ER	106	5.1.3	5
1380	EC	A description of how will minimum flow requirements be maintained during unscheduled / emergency shut downs.	ER	116	5.3	2
1381	EC	Magnitude of effect is ranked "Low' even though the geographic extent is 1 - 10 km and the likelihood of impact is high. The severity of the potential impact to Lake Sturgeon may be understated. It is also prematrue to state no signficance to the residual effect when no proposal to address lake Sturgeon concerns has been sumbitted reviewed and confirmed by MNR/ DFO.	ER	120	Table 6	4
1382	EC	Some of the access roads will have continuous use so there will be a residual effect. Also the summary of this activity assessment is missing details.	ER	120	Table 6	10
1383	EC	Innudation resulting in the permanent loss of fish habitat for specific species is a residual effect.	ER	122	Table 6	7
1384	EC	Another section of ER or other document acknowledes that Northern Pike may be negatively affected but it is stated as no residual effect in this table.	ER	122	Table 6	8

1385	EC	The ability for Lake Sturgeon to access Wabagehsik Lake has not been conclusively decided. Although the the Natural Environment Characterization Report stated that it was unlikely for sturgeon to pass through the upper reaches of Wabageshik Rapids the report does acknowledge that it is physically possible under the right conditions. Suitable spawning conditions at Lorne Falls for sturgeon may exist. With a possible anecdotal report of historic catches of Lake Sturgeon in Wabageshik Lake additional work assessment and/or habitat suitability work may be warranted. The ER should acknowledge the possibility that the facility may affect connectivity and propose how options of how to deal with it.	ER	123	Table 6	6
1387	EC	There are other facilities that may affect the fish populations in the Vermillion / Spanish River section including the Big Eddy GS and Nairn Falls GS. Both are located on the Spanish River upstream of the confluence with the Vermillion River.	ER	129	7.1	4
1388	EC	MNR and DFO have not reviewed any proposal describing how the lost fish habitat will be compensated and if it will be feasible. Overall benefit may be still required for Lake Sturgeon which could involve the additional creation of habitat.	ER	131	7.2	5
1389	EC	Post-construction monitoring of fish response to operations and the success of mitgation / compensatory measures re: fish habitat will be a requirement.	ER	133	8.2	2
1390	EC	Post-construction monitoring of fish response to operations and the success of mitgation / compensatory measures re: fish habitat should be a committment.	ER	139	10	6
1386	EC	Assessment of impacts and their signifcance is incomplete for the Fish Habitat Fish Migration and Fisheries section. Details are required in order to review and comment on.	ER	122-12	Table 6	0
1409	EC	Table 2 - Potential bird species identified from OBBA 2006. This is based on the second survey of which some species identifed in the first survey were not found. This may not be due to a decline or absence of the species but in soem cases can be attributed to less effort resulting in fewer species identified.	Natural Environment Report	8	2.2.3	2
1411	EC	Because Blanding's turtle do not burrow into the mud and may actually show lateral movement during the winter they may be able to relocate to deeper sections providing they do not become trapped in a depression. Detailed measurements of elevation in the tributaries and the effect of dropping water levels in the pool would further assess the potential for negative impacts to turtles.	Natural Environment Report	91	6.5.1	4
1410	EC	Blanding's turtles do not burrow into the mud during the winter and prefer firm bottoms substrates to softer substrates.	Natural Environment Report	91	6.5.1	2

1412	EC	If Blanding's turtles are present and it is shown that the operating regime will have a negative impact on the species then an 17(2)(c) overall benefit permti may be needed. MNR has survey protocols for Blanding's turtles outlining required effort. The use of hoop net traps or other handling of Blanding's turtles would require a 17(2)(b) permit.	Natural Environment Report	92	6.5.1	2
1413	EC	There is a recent anecdotal report of historic catches of Lake Sturgeon in Wabageshik Lake. While this report has not been verifed the assessment also acknowledges that it is possible for movement into the lake up from Wabageshik Rapids.	Natural Environment Report	105	6.7	2
1405	EC	Table 6 line 5 - More details regarding the min/max elevations and what is the daily average. Is it an annual average or does it change seasonally / montly?	Operating Plan	28	7.2	5
1404	EC	Minimum compensatory flow has not yet be agreed upon. The proposed Qcomp flows in Table 5 are likely insufficient to address all aquatic ecosystem needs.	Operating Plan	28	7.2	3
1401	EC	What range of night-time velocities are being proposed to aid larval drift?	Operating Plan	41	Appendix 2	5
1398	EC	True run-of-river operations are proposed during Lake Sturgeon spawning is good and using temperature-based approach is appropriate. However no fluctuations in water depth should occur during the incubation period due to risk of exposure. Sturgeon may cast eggs in as little as 10 cm of water; the 20 cm range proposed would dewater incubating eggs at this depth.	Operating Plan	41	Appendix 2	0
1400	EC	Updated modeling required to demonstrate that Lake Sturgeon spawning / incubation / pre-dispersal habitats will not be exposed with the proposed change in depth.	Operating Plan	41	Appendix 2	3
1393	EC	NHIC is not the only source of species at risk information.	Potential Effects Identification	2	1	4
1394	EC	Lake sturgeon has been confirmed to be within the study area.	Potential Effects Identification	2	1	4
1395	EC	More details regarding field investigations planned in Fall 2012 around verification of ESA habitat. Fall is not an optimal time for most SAR surveys. MNR may have draft survey protocols specifying preferred methodology effort and ambient conditions. For some species a ESA permit may be required if the survey harms or harassess the species.	Power Lines and Roads	4	0	0
1435	KH	Number 9 dosn't show private property in Lot 6 Con 6 Foster Twp	Annex 1	9	0	0
1399	KH	They mentioned roads and Hydro lines entirely on Crown land yet one of their alternative routes along the road to Elizabeth lake is on private land	Annex II	0	0	0

1438	KH	reguires full evaluation of both options for hydro and rd corridors. Why is the Hydro corridor branching off from Elizabeth Lake road instead of following existing rd corridor. Need to have all options in EA	Annex VI	0	0	0
1437	KH	If there is a primary road up to the Vermillion Snowmobile bridge how do we keep trucks and other vehicles from using the bridge that is rated 5 Tons. Right now these vehicles do not have access to the bridge?	Annex VI	7	0	0
1436	KH	Again talks about the crossing of the vermillion River. Access from Panache lake rd would not use the Vermillion River bridge but the Brazil creek bridge. Wording need to be cleaned up	Annex VI	7	0	0
1402	KH	They mention the only existing access is the snowmobile trail across patent land that crosses the vermillion river bridge. This is misleading as they do not plan on crossing the vermillion river snowmobile bridge but they are planning on coming up from the south along the trail and crossing the Brazil Creek bridge.	ER	24	2.11.2	0
1403	KH	Under ATV. Project will increase ATV access if new roads/corridors are opened up	ER	27	0	0
1406	KH	Moose tag participation rate seems to be wrong in WMU 39 and 42. Need to clean up wording	ER	30	6.11.6	0
1407	KH	Sturgeon were found in 2012 but it is not mentioned should be updated	ER	31	Fishing-Ang	0
1408	KH	Existing 7 km gravel private rd from Hwy 6 to downstream of the rapids. Not sure were this is it maybe the road from hwy 17 before the spanish river bridge. Need to clarify	ER	38	0	2
1414	KH	Line option 1. Why does it not follow the entire snowmobile trail to Vermillion River instead of a new corridor for over 3 km. That is our perferred option instead of creating a new corridor and should show this as an option for the EA.	ER	43	0	2
1416	KH	Under Access roads need to clarify options and provide more details. Again they mention the Vermillion Snowmobile bridge but I thought they were not using it. Also MNR's perferred option is for them to work with the private land owners and use existing corridor etc instead of creating new access.	ER	44	3.4.3	0
1417	KH	All temporary bridges will require approval under the PLA or LRIA	ER	45	0	0
1418	KH	First bullet point. A work permit for the transmission lines and roads have not been completed by Xeneca.	ER	68	0	0
1419	KH	Key permitting requirements should include discussions on requirements under the Public Lands Act.	ER	68	0	0
1420	KH	What is the result of efforts to have the claim holder release surface rights?	ER	71	0	0
1421	KH	Under Surface water they have borrow sites for aggregates will be minimuim 30 m from lake river etc yet in their drawings they have one north of Vermillion within the 30 m	ER	88	Table 5	1
1423	KH	Under Power line constuction they mention ground truthing will be done in 2013 this should be done prior to final approval of the EA	ER	91	Table 5	0

1425	KH	Access restrictions should be considered carefully, in consultation with MNR, as they can have several implications, including enforcement.	ER	99	Table 5	0
1426	KH	Wabageshik Rapids will be impacted for canoing/kayaking, however this impact does not appear to be fully identified/assessed.	ER	100	Table 5	0
1427	KH	Impacts to navigation should be identified/assessed.	ER	103	Table 5	0
1428	KH	Max and min water levels in the lake need to be definitive, reflected in the Operating Plan and assessed for stakeholder impacts.	ER	105	5.1.1	0
1429	KH	The proposed dam will have an impact on canoeing/kayaking/use of the rapids.	ER	113	5.1.16	0
1430	KH	MNR's perferred option is to use existing corridors where possible, and encourages Xeneca to work with existing landowners for solutions.	ER	114	5.1.19	0
1431	KH	Soil and sediment quality. it is suggested that Xeneca re-examine the potential impacts for soil compaction in footprint and ROW's and excavated material, and relevant info included in table.	ER	122	Table 6	0
1432	KH	Navigation: residual effect should be yes as the Dam will impede recreational navigation and enjoyment of the rapids.	ER	125	Table 6	0
1433	KH	Views and aesthetics: should be yes as this will change this river completely with a Dam and Powerhouse	ER	126	Table 6	0
1434	KH	Access Roads: references Hwy 101 - appears to be an error.	ER	130	7.1	0
1424	KH	Under access roads they talk about the gating of roads in a couple of sections to prevent access. Access restrictions are subject to approval by MNR.	ER	91 & 9	Table 5	0
1360	LF	Annex III does not include potential impacts of roads on habitats.	Annex III	0	0	0
1359	LF	Deer travel corridor should be included as candidate SWH based on results of site investigations.	Annex III	71	5.3.1	0
1361	LF	Table should outline mitigation options for deer travel corridor.	Annex III	116	Table 13	0
1352	LF	Cannot comment on Natural Heritage Assessment on proposed roads and transmission corridors as this work is yet to be completed.	Annex VI	0	0	0
1356	LF	Cannot comment on impacts of roads and transmission corridors as information gaps exist. Transmission corridors may be covered under the alternate reviwe process however roads should be included in the ER.	ER	0	Table 6	0
1353	LF	Potential Impacts to lake sturgeon should be considered within the SAR section of table 5.	ER	0	Table 5	0
1351	LF	Impacts on turtles including snapping and Blanding's turtles nesting and overwintering habitats are unclear as no specific turtle assessment was completed at the time of report submission.	ER	0	0	0

1354	LF	Blanding's and snapping turtle habitat may not be impacted according to report as suitable habitats may be found behind tributary associated with a beaver dam. The potential impacts of frequent water level fluctuations on the beaver dam(s) should be outlined as this could significantly impact a variety of habitats.	ER	0	Table 5	0
1350	LF	Change Vulnerable threatened or endangered species heading to Species at Risk.	ER	17	2.9	0
1357	LF	Cumulative impacts assessment should consider the impacts of the other water control structures within the system not just the Xeneca projects.	ER	130	7.2	0
1358	LF	Further monitoring should include the assessment of deer crossing impacts associated with water levele fluctuations adn committment for mitigations as neccesary as well as assessment of impacts to turtle species downstream of the proposed developement as a result of water level fluctuation.	ER	136	10	0
1355	LF	Committment should be made to monitor eagle or osprey nests if in close proximity to the site during construction adn particularly during the nesting period until eggs hatch as potential nest abandonment is more likely during this time.	ER	118 of	Table 5	0
1517	RP	In this report it states that 'slit clay conditions are considered to have lower sensitivity to erosion than sand and gravel conditions which is an inherent result of cohesive properties'. But if silt and clay are saturated they can erode quickly and catastrophically (see Blanche River below Marter site for example). Are silt clay conditions an issue at Wabageshik?	Annex 1	7	Ortech repo	0
1506	RP	Figures 8. and 11. are missing from Annex 1.	Annex 1	25 & 27		0
1512	RP	The proposed ramping rates for the operation are quite high. A 20 minute ramping time gives a ramping rate of approximately 125 cubic metres per second per hour. In comparison the Kapuskasing River has a maximum ramping-up rate of 24.1 cubic metres per second per hour. The Magpie River has maximum ramping-up rate of 38 cubic metres per second per hour. Is bank erosion a concern in the downstream Zone of Influence with these extreme proposed ramping rates?	Annex 1			0
1518	RP	The report indicates that this is a desk top level review. I think there is justification to get into the field and consider erosion potential in both the upstream and downstream Zone of Influence. I'm certain there are some 'hot spots' that field crews have observed and need further study or consideration. This does not need to be a lengthy or costly amount of work but I fear a desk top analysis may be too general to be of great value (?)	Annex 1		Ortech repo	0
1519	RP	The dam location for Attachment 3. Wabageshik - Slope Analysis figure is not in the correct spot; I believe the actual proposed dam location is a couple hundred metres upstream.	Annex 1		Ortech repo	0

1503	RP	It states that 'fluctuations in lake levels due to daily facility operations will be within a range that is not readily apparent to the naked eye.' I do not think our perception of the water levels is that important - how these fluctuations will impact the Valued Ecosystem Components is what is important.	ER	105	5.1.1	0
1500	RP	The 100 year flood flow as stated in Section 3.6.2 is 574.8 cms. In Table 3. the 100 year flood flow is stated as 507 cms. Please clarify and correct or explain.	ER		3	0
1502	RP	The stated MegaWatt potential is 3.4 for Wabageshik. By my calculation the 3.4 MW will only be generated when discharges are 63.1 cms or greater. Can there be an estimate of how often this would occur? (e.g. 5% of the time?). What would be the average MW output of the proposed facility considering an entire year?	ER			0
1507	RP	A flow duration Q99 value is nearly the lowest flow on record and the summer fall and winter downstream environmental flow targets are at or far below this value. Would this not put the VEC's at great risk?	ER			0
1501	RP	With respect to the information contained in Table 2. Table 3. and Table 4. the facility will be in peaking mode 85% to 95% of the time for 299 consecutive days of the year. Clearly the proposed Wabageshik G.S. is a peaking operation; 'modified run-of-river' is a misleading statement.	ER		3	0
1509	RP	Despite all the work done to model flows for the proposed Wabageshik site actual flows are unknown. Pressure transducers were put in place but was a rating curve ever fully developed to create a flow hydrograph to know with great certainty the flows that are available at the proposed facility?	ER			0
1499	RP	There is mention that the consultations with Vale Inco with regards to tailrace impacts are ongoing. Can this be clarified? Has this been resolved?	ER			0
1516	RP	The downstream environmental flow targets of 3 cms (summer) 2 cms (fall) and 1 cms (winter) are very low. Are these values starting points for discussion? Thanks.	ER			0
1498	RP	There is discussion that the upstream Zone of Influence is 600 metres and that it is coupled with Wabageshik Lake. Thus I think the ZOI should be stated to be the entire length of the lake in kilometres.	ER			0
1460	RR	It is unclear as to how Xeneca integrated the Waterpower Class EA process with provincial regulatory processes specifically with respect to MNR permits and approvals and the Aboriginal consultation component during the EA process.	"ER	60	4.1, 4.2	0 "
1485	RR	the harmonizing and timelines indicate that additional aboriginal consultation and benefit discussions (ie. Site Release) will occur after Notice of Completion and at Location Approval stage. Two separate processes being blended which may create pressures on MNR during permits/approval stage.	Appendix E	5	2.3	8

1486	RR	The word 'municipal' is inappropriately used in this sentence while referring to Aboriginal communities.	Appendix E	7	2.4	24
1489	RR	Generally this table is inconsistent with consultation requirements during EA and permits/approvals stage including requirements for MNR site release (ie. B2B). Phase 3 studies inconsistent with Xeneca's e-mail to Aboriginal communities indicating they will not be required as cultural site will be avoided. Under Location Approval unknown what reference to 'Marter' is for. Appears to be incomplete or error. Also table identifies that further aboriginal consultation may be required after Statement of Completion during Approvals/permitting stage. Table suggests that consultation and IBA with aboriginal communities to be completed at start of construction. This seems to be late in the process. Unknown what reference to 'Half Mile' is.	Appendix E	9	Table 1	0
1490	RR	This table clearly indicates that the engagement period with Aboriginal communities for consultation will occur after EA. Should this have been done early in the EA process?	Appendix E	11	Table 3	0
1521	RR	General comment that the Contact and Consultation Log for Aboriginal communities are insufficient for the MNR (perhaps Crown) to determine if adequate consultation with communities has been undertaken by Xeneca. Appears lack of traceability and transparencey with engaging communities in meaningful way and in decisions. Unable to separate consultation efforts under EA and business discussions associated with MNR site release. As a result additional consultation may be required by Xeneca during permit/approval stage. In March 2012 MNR requested Xeneca to make additional efforts to engage Identified Aboriginal communities relating to B2B. Unknown from logs if Xeneca has followed up.	Appendix E		Log	0
1482	RR	General comment that Aboriginal Consultation Plan should have been finalized early in the EA process and carried out during the EA. Leaving the ACP to the near end of the EA leaves uncertainty in Aboriginal consultation during the EA and later in permits and approvals stage.	Appendix E			0
1450	RR	Executive Summary Archaeological Sites Line 20 It is recommended that the Belmer Site be subject to Stage 3 assessment prior to any proposed construction activities. This statement appears to be inconsistent with the Aug 21/12 e-mail from Xeneca to Aboriginal communities indicating that a Stage 3 assessement will not be required as it is anticipated that the site can be avoided.	ER	0	0	20
1415	RR	Will the Notice of Completion be provided to Aboriginal communities?	ER	10	1.4.5	20
1456	RR	Will the Notice of Completion be provided to Aboriginal communities?	ER	10	1.4.5	20

1457	RR	This statement appears to be inconsistent with the Aug 21/12 e-mail from Xeneca to Aboriginal communities indicating that a Stage 3 assessement will not be required as it is anticipated that the site can be avoided.	ER	23	2.10.1	23
1459	RR	It will be interesting to hear the perspective from Aboriginal communities on the extent of the engagement by Xeneca with Aborginal communities on spiritual ceremonial and burial grounds.	ER	35	2.11.10	0
1461	RR	Paragraph 2 & 3 Reference is made to 'meetings being held with Identified Aboriginal communities as part of the business to business Aboriginal consultation initiative.' This statement confuses the MNR's Site Release requirements with the consultation requirements under the Waterpower EA. In both processes it is unclear if sufficient efforts have been made by Xeneca. It should be noted that these are two separate processes.	ER	62	4.2.4	23
1463	RR	MNR has not endorsed any Draft Aboriginal Consultation Plan that I am aware of. Also I am not aware of high levels of MNR engaging in meetings that resulted in mutually agreed upon approach for the planning and approval process. Unable to locate the meeting minutes of July 19/12 in Appendix C. Also Appendix C appears incomplete.	ER	69	4.3.2	6
1465	RR	Sudbury MNR did meet with AA separately. Unclear if Xeneca took additional efforts to meet with AA.	ER	81	4.5	19
1464	RR	Whitefish River First Nation should be under 'Identified' community. Does Wahnapitae FN belong under 'Local' community?	ER	81	4.5	0
1466	RR	Request for separate to host first Information Centre at Wikwemikong was denied by Xeneca.	ER	82	4.5	5
1467	RR	Xeneca has informed Aboriginal communities that engagement plan will formally begin after Notice of Completion at which time the ER will be provided to the communities for 30 day review. Is this considered appropriate consultation under EA?	ER	82	4.5	32
1469	RR	Similar to pg 82 but inconsistent Aboriginal community engagement plan will begin after issuance of Notice of Completion at which time the ER will be provided to the communities for a 60 day review. Is this adequate consultation under EA?	ER	83	4.5	28
1470	RR	Unsure if this would be the same perspective by MNR of what occurred during meeting of Feb 2012 with UOI reps.	ER	84	4.5	1
1474	RR	It is unclear if specific issues from Aboriginal consultation is complete in Table 5.	ER	115	5.2	3
1475	RR	Incorrect reference to Serpent River Water Management Plan (should be Spanish River)	ER	137	10	22

1476	RR	Reference made under Consultation that the proponent is committed to MOU's with FNs. This is confused with MNR Site Release. Also proponent is committed to continued to engage stakeholders after issuance of Notice of Completion and Statement of Completion. Should this consultation be done during the EA process prior to the Notice?	ER	138	10	19
1477	RR	Confuses MNR Site Release process with consultation under EA. Also requirement for Stage 3 assessement is inconsistent with what Xeneca has informed Ab communities.	ER	140	11	25
1452	RR	Executive Summary Project Description Is this statement 'Based on First Nation input alternate materials other than concrete,à' relevant to the Wabageshik site?	ER			13
1455	RR	Executive Summary Further Investigations This statement appears to be inconsistent with the Aug 21/12 e-mail from Xeneca to Aboriginal communities indicating that a Stage 3 assessement will not be required as it is anticipated that the site can be avoided.	ER			4
1454	RR	Executive Summary Residual Adverse Effects Suggests that potential for economic development is only afforded to those Aboriginal communities pursuing a business to business relationship with the proponent (ie. Those Identified Aboriginal communities as set out under MNR site release policy and not through consultation with Ab communities under the EA).	ER			6
1451	RR	Executive Summary Aboriginal Land and Water Use It is unclear as to what Xeneca has provided to Aboriginal communities on the project and may not be accurate indicating that this has been done under the guidance of the MNR. The process under the Waterpower EA and MNR's Site Release Policy appears to be blended together.	ER			0
1473	RR	Table 5 Economic Development Business to Business is incomplete for Identified Aboriginal communities.	ER			4
1472	RR	Table 5 Aboriginal Community Considerations Mitigation indicates that business to business discussions (MNR Site Release) will occur after issuance of Notice of Completion. Confusing	ER			6
1458	RR	Paragraph 2 Recommend changes to this paragraph to clearly indicate which potentially affected Aboriginal communities identified by Ontario (not MNR as stated and not associated with MNR site release policy). The communities that were recommended by Ontario for consultation included WLFN WRFN Sagamok Wikwemikong North Channel Metis Council Sudbury Metis Council. Note Wahnapitae FN was not recommended by Ontario. The statement relating to 'àthese First Nation communities were originally contacted and consulted by the MNR during the planning process that lead to the release of this waterpower site.' is inaccurate.		33	2.11.10	2

1462	RR	Although Aboriginal communities were notified of the first PIC and invited to attend Xeneca provided no option for hosting separate Aboriginal community information centres.		62	4.2.5	0
1453	RR	Executive Summary Positive Effects Where/how in the ACP are benefits to Aboriginal communities including employment opportunities referenced?				11
1568	RS	Figure 9 shows increase in tailwater level at Lorne Falls and the concern is on any impact or increase in water level at the Lorne Falls dam.	Annex 1	0	0	0
1567	RS	Concern that Lidar was only used for 1.4 km downstream while Goggle Earth was used for the remainder of the zone of influence downstream. Comments need to be provided discussing the accuracy of Goggle Earth the limitations of such and the overall impact.	Annex 1	0	0	0
1565	RS	Figures 8 and 11 are missing.	Annex 1	0	0	0
1561	RS	it is stated that the maximum daily fluctuation is 0.1m but it is not clear if this is for the entire head pond (existing lake and new inundation area) or for the lake only or the new inundation area only.	Annex 1	21	0	0
1563	RS	On Figure 4 it is not clear on why the LTAF NOL would be at the upper limit or extent of the 100 year flood elevation?	Annex 1	22	0	0
1564	RS	Figure 5 - there is a comment made with respect to the modeling artefacts and results in the post-project LTAF being above the pre-project LTAF. More details and additional explanation are needed on this modelling artefacts dealing with what caused why it cannot be removed from the model and what is the impact on this artefact on other runs of the model. Note that this is not in accordance with Figures 4 6 and 8 which show all show an increase in headpond level from pre to post development.	Annex 1	23	0	0
1558	RS	There needs to be comments and justification on why there was only a ôdesk top studyö undertaken for potential erosion. There should be comments on why there was no need to go to the site and inspect/investigate to ôground truthö assumptions. A site visit should have been undertaken to confirm assumptions. Specifically there is a concern with respect to the scour potential of the downstream cobble bed.	ER	0	0	0
1557	RS	There should be clear indication that specifies what level the clearing (cutting of the trees) is to take place in/around the headpond.	ER	0	0	0
1554	RS	There needs to be assurance that there will be no impact (i.e. flooding) of private land up to and including the IDF and for the entire headpond (for both the newly inundated area and the existing lake).	ER	0	0	0

1553	RS	It is stated that the upstream inundation zone will extend 11.7 km and then also indicated that the Lorne Falls dam (Vale) is 9.5 km upstream. The concern is with regards to the possible inundation or impact of Vale's tailrace at Lorne Falls. Either clarification or more details/discussion on the possible impact of the head pond on the tail race needs to be provided. I note that there was no inundation map provided for the existing lake area.	ER	0	0	0
1552	RS	There should be more detailed discussion on the possible fluctuations that would occur within the 600m inundation zone immediately upstream of the dam.	ER	0	0	0
1550	RS	There is a fairly good description on how they plan to operate the facility but a typical yearly cycle with average flows that would be expected during that period and having both the upper and lower operational ranges (day time versus night time levels) shown would help people (general public) visualise the proposed operational ranges.	ER	0	0	0
1559	RS	It is not clear on where the base or residual flow will come from (e.g. turbine low level outlet).	ER	0	0	0
1443	RSt	what is the purpose of stockpiling 'unsuitable material' or 'extra blast rock' . Unnecessary excavation/clearing should be avoided to minimize need for this. Construction sequence (1.5) needs to address rehabiliation of all disturbed areas including plans for leftover material.	Annex II	31	1.2.1	3
1442	RSt	testing of material to determine suitability should also include tests to deterimine if it is acid generating. Acid generating rock would not be suitable for use in an in water situation.	Annex II	31	1.2.1	1
1441	RSt	Refers to 'earth borrow material may be excavated from the up-slope side of the temporary north bank access road' - the location shown on the diagrams on page 36 is the steepest section of the north bank and is shown as Nipissing Diabase on geological mapping. Unlikely to be a source of 'earth' or any unconsolidated material. In addition removal of surface material and vegetation from part of a steep slope could result in significant longterm erosion/sedimentation and slippage of the material remaining above the stripped area (safety issue) in addition to the high impact on aesthetics of the area(which they state elsewhere that they are going to preserve.)	Annex II	31	1.2.1	1
1439	RSt	section identifies 'borrow/Laydown' areas totalling 5000m2. Also state that a larger area may be required or it may be in an alternate location. Operational justification for some of the areas has not been provided. Unclear if 'levelling' in some areas will be by filling or by excavating. Others appear to be simply for a source of aggregate. Insufficient information to determine if/when an aggregate permit would be required.	Annex II	31	1.2.1	0

1440	RSt	section states that 'to generate additioanl blast rock material the foundation or powerhouse excavations may be extended deeper or wider to generate the required material'. While use of the material that would be justified by the engineered footprint of the structures is an acceptable source expanding that area strictly for the purposes of obtaining more aggregate is not acceptable.	Annex II	32	1.2.1	1
1396	RSt	adjacent authorized site list is incomplete. Map of sites in adjacent townships/licence information can be obtained by contacting Sudbury District Also Licencee for 20425 is now Interpaving Asphalt and Aggregate Supply Ltd.	ER	29	0	0
1544	BT	Further clarification required on the frequency at which you determine the average lake level. (Monthly or Annual average/POR?)	Annex 1	10	1	3
1569	BT	Further clarification required on 40cm absolute error - how does this influence the modellin gresults and assessment of impacts?	Annex 1	15	1052-001-3.	0
1663	WS	Re: Proposed Operating Plan (July12 - rev5) - Additional review dialogue and agency concurrence regarding proposed operating strategies is required. As currently proposed downstream environmental flows are too low representing extreme drought conditions and the overall range of daily fluctuation during periods of intermittent ops is too high. Also require confirmation as to whether proposed pulse operation will occur once per day or multiple times per day as this will also drive impact levels related to the aquatic ecosystem erosion public saftey etc. Daily water level / velocity fluctuation certainly has potential to affect aquatic productivity (consistently wetted habitat / substrate modification related to erosion & sediment transport / loss of vegetation / dewatering and/or dislodging of benthic invertebrates / reduced cyprinid production / ice scour / stranding of fish etc.). We acknowledge Xeneca's commitment for 'true' run of the river ops during the walleye spawning / incubation period but also need to cover pike spawn as well as sturgeon incubation & drift and we need to consider impacts at other times of the yea	Annex 1	0	0	0
1664	WS	Re: Erosion Potential Assessment - Does not appear to address the full ZOI either upstream or downstream. The downstream VFR between GS and Graveyard Rapid being of particular concern given magnitude of potential fluctuation.	Annex 1	0	0	0
1669	WS	Re: Site Layout - Tailrace location / design may require further consideration. Would like to see pool function below spillway dam maintained. Also wonder about concentration of direct tailrace flow through the critical spawning habitat on south side of channel. Will the resulting velocities exceed suitability for spawning?	Annex II	0	0	0
1667	WS	Re: Construction Mgt Plan - At first glance the temporary road & borrow / laydown area identified along steep slope on north side of the river would seem to present a high level of disturbance. More dialogue required.	Annex II	0	0	0

1670	WS	Need to acknowledge value of pool below proposed GS. As well as a staging area for spawning redhorse sucker walleye and potentially sturgeon the pool is known to seasonally hold large numbers of northern pike presumably feeding on YOY suckers and other drift.	Annex III	26	3.2.1	0
1690	WS	Report acknowledges refuge value of pool below proposed GS to redhorse spc. This pool is also known to hold large numbers of pike presumably feeding on YOY suckers and other drift.	Annex III	26	3.2.1	0
1689	WS	The large lacustrine / wetland feature below proposed GS (characterized by large back bays / slack water / dense aquatic veg'n) provides nursery refuge and feeding habitat for wide range of species in addition to pike spawning function.	Annex III	28	3.2.1	0
1692	WS	Value of Graveyard Rapid as critical feeding and spawning habitat for a range of species at low flows needs to be acknowledged.	Annex III	29	3.2.1	0
1693	WS	Re: Table 5 - Habitat calculations presented do not include Wabagishik Lake as part of the upstream ZOI. This needs to be acknowledged in the table or associated text.	Annex III	30	3.2.1	0
1694	WS	Incorrect statement made that pike spawning habitat below Graveyard Rapids is outside of the variable flow reach - clearly within VFR.	Annex III	70	5.2.2	0
1673	WS	Cannot really say that northern pike will not be impacted by the GS footprint. The pool at / immediately below the proposed dam & tailrace is a pike feeding area.	Annex III	81	6.2.2	0
1675	WS	Report states that the +/- 5cm fluctuation is expected to occur once daily but may occur more frequently. Multiple peaks per day would carry greater impact to the aquatic ecosystem / erosion / public saftey etc. Operating regime needs to be nailed down. Once cylce per day would be the most environmentally responsible approach.	Annex III	85	6.4	0
1676	WS	Operating plan currently proposed is not consistent with MNR's mandates due to the magnitude of system alteration and associated effects. Xeneca and agencies are yet to come to consensus on an operating plan that will continue to provide for the requirements outlined in the purposes of the LRIA and other applicable legislation, as a starting point for Xeneca's public and Aboriginal consultation. For example, an appropriate Qea and range of daily fluctuation is yet to be agreed upon.	Annex III	87	6.5	0
1677	WS	Note: Reference to 6 C trigger for RoR ops to address walleye spawn. Walleye are known to begin to stage and spawn at 4 or 5 C at other Spanish River sites in the local area. A 4 C target for RoR ops would fully capture walleye staging / spawn and better capture pike spawn.	Annex III	89	6.5.1	0
1678	WS	An existing beaver dam is referenced as mitigating impacts to Tributary A. Will daily water level fluctuations affect the stability of this beaver dam and ultimately water levels in the Tributary?	Annex III	90	6.5.1	0

1681	WS	Based on previous sampling in the system the redhorse species present are likely Shorthead and Silver (not Golden). Believe the site is beyond the expected range of Golden Redhorse.	Annex III	93	6.5.2	0
1682	WS	ROTR ops for walleye spawn should start at 4 C to fully capture stage and start of spawn. 4 C would also better address pike spawn which often preceeds walleye. Need to further consider whether formula presented for incubation / swim up makes sense. Additional dialogue required.	Annex III	93	6.5.2	0
1683	WS	ROTR ops proposed for sturgeon only cover the actual spawning window. The acceptability of any level of flow modification during incubation / drift yet to be agreed upon. Potentially ROTR thu entire reproductive window (i.e. to June 30th).	Annex III	94	6.5.2	0
1687	WS	ROTR should commence a 4 C to fully mitigate for pike spawn & staging / early walleye spawn. 4 C as a trigger for walleye is confirmed in Section 6.7 page 103 in regard to fish passage analysis.	Annex III	96	6.5.2	0
1688	WS	The referenced compliance commitments need to be met thru higher Qea & reduced range of flows rather than thru multiple peaking cycles which would carry much greater impact. This needs to be confirmed in the operating plan.	Annex III	97	6.5.2	0
1695	WS	The report finding that benthic production is lower at Graveyard Rapid confirms high importance / sensitivity of fast water habitat immediately below proposed GS.	Annex III	97	6.5.2	0
1698	WS	Concurrence re: lack of provision for fish passage has not yet been provided by either DFO or MNR. While we acknowledge Xeneca's intent to proceed without such a provision ultimately the statement that passage is not required to meet fisheries management objectives depends on the details of habitat compensation and operations which have yet to be fleshed out.	Annex III	102	6.7	0
1700	WS	The statement that a dam at this location without provision for fish passage will not adversely affect management of fisheries resources is not defensible. There is risk in foregoing passage requirement and this risk needs to be acknowledged. The question becomes whether the level of risk is reasonable and that decision has yet to be made by DFO and MNR.	Annex III	105	6.7	0
1702	WS	Timing window specified for in-water blasting and cofferdam contruction / removal not sufficient to address sensitive period for sturgeon or smallmouth bass. May need to extend to June 30th or July 15th depending on nature and scope of work.	Annex III	111	6.8.5	0
1704	WS	Upstream compliance commitment of +/- 5cm may ensure minimal / limited impact but not NO impact as stated.	Annex III	120	7	0
1703	WS	Need to acknowledge value of pool below proposed GS to northern pike (as per earlier comments).	Annex III	120	7	0

1701	WS	Question the need for and impact associated with a laydown area and temporary access road on northwest side of river. Given the nature of the shoreline in this area (steep slopes) such construction would seem to present significant potential for impact to stability and aesthetics. Can equipment not access the northwest work area via the required cofferdam.	Annex III	106 &	6.8.1	0
1691	WS	The 4 tributaries to the downstream VFR all provide some fish habitat function. What will peaking do to the interface with main river?	Annex III	31 & 3	3.2.1	0
1671	WS	The spawning surveys completed in 2011 were conducted late in the spawning window and perhaps this should be acknowledged given that fish were captured at much lower temps by Kilgour in 2012. I expect sturgeon were there in 2011 as well unfortunately prior to sampling efforts.	Annex III	35 & 3	3.2.3	0
1674	WS	Further dialoge required on habitat compensation - not presently able to determine extent of impacts.	Annex III	84 & 8	6.3.2	0
1680	WS	General Comment - With details of operating strategy yet to be agreed upon very hard to evaluate impacts and effectiveness of mitigation or even ability to mitigate while maintaining adequate generating potential.	Annex III	93 - 98	6.5.2	0
1685	WS	Benthic production and foraging opportunities in the 400m of high quality riffle / rapid immediately below the proposed GS is definitely of concern. Fish utilize this area heavily likely year round but certainly thru spring / summer / fall. The extent and nature of benthic production in this area would NOT occur elsewhere in the 5km of Vermillion downstream (as stated in the report) given that there are no other similar habitats available. The extent of fluctuation in the critical habitat projected by the latest modelling is unacceptable. Qea needs to be higher and range of discharge fluctuation needs to be lower than presently proposed. To mitigate for stranding Qea needs to ensure sufficient water remains in north portion of channel at transect RS 202.5 off peak.	Annex III	94 & 9	6.5.2	0
1696	WS	With details re: design and mitigation for entrainment & impingement pending cannot really evaluate significance of residual effect yet it is ranked low or nil in ER.	Annex III	98 - 10	6.6	0
1697	WS	Should also consider smallmouth bass swim speeds in design / mitigation for entrainment & impingement.	Annex III	99 & 1	6.6.1	0
1513	WS	Re: River Hydrology - The statement that the 5km section of river downstream of the proposed dam is mostly deep and uniform is questionable. The river segment referenced is quite diverse include a variety of riffle rapid run pool wetland and lacustrine habitats.	ER	13	2.8	0
1514	WS	Note that the hydrographs and flow duration curves for the site are based on 1954-93 date at Lorne Falls. While this seems like a broad dataset what about the last 20 years and what about climate change? Pre 1993 data would not be representative of what we can expect to see in the next 20 years.	ER	14	2.8.1	0

1520	WS	Reference to spawning sites in proximity to site is incomplete. There are 6 (potentially 7) known spawning sites within the ZOI - 3 in Wabagishik Lake Wabagishik Rapids (above & below proposed GS) pike spawning in the wetland below proposed GS Graveyard Rapids and perhaps even Darkie Creek depending on boundary of downstream ZOI.	ER	16	2.9	0
1522	WS	Re: VTE list - What about Whippoorwill?	ER	17	2.9	0
1523	WS	Re: Study Area - dialogue required to clarify downstream ZOI. Compliance commitment of +/- 5cm beyond confluence will limit impact, but can we really say 'no' influence beyond confluence?	ER	17	2.9.1	0
1524	WS	Text acknowledges the deer movement corridor / crossing. At some point in the EA documention need to identify this as a signficant consideration (i.e. SWH).	ER	19	2.9.2	0
1526	WS	Based on previous work we believe that the redhorse sucker species found above Espanola are shorthead and silver (not golden). Would suggest we are beyond the normal range of golden redhorse.	ER	20	2.9.4	0
1528	WS	Again what about Whippoorwill? Certainly for transmission / access corridors.	ER	22	2.9.6	0
1529	WS	The deer movement corridor / crossing should be evaluated (and confirmed) as SWH. Given the scope of the SWH surveys it would appear that a number of categories related to wetland habitats which do exist in the VFR were also neglected. Need to revisist SWH review and designation. See related comments re: Natural Environment Characterization.	ER	22	2.9.7	0
1530	WS	Although the Spanish River Signature Site certainly does recognize / profile the high social value assoication with this river system it does not intersect the ZOI for this project.	ER	24	2.11.1	0
1531	WS	While the proposal may not directly compromise structural integrity or preclude occupation of waterfront residences / cottages the aesthetic impacts and water level fluctuations especially downstream will certainly affect use / enjoyment and potentially create erosion problems.	ER	25	2.11.4	0
1532	WS	Re: Snowmobiling - In addition to established OFSC trails there is at least some local use of the Vermillion below Graveyard Rapid and the Spanish below confluence. Will the daily water level fluctuations proposed create unsafe ice conditions?	ER	26	2.11.4	0
1534	WS	Re: ATV Use - Xeneca has committed to using existing roads / trails to the extent possible. The statement that the ATV trail beyond the Elizabeth Lake Bridge will not be affected should be revisited.	ER	27	2.11.4	0
1536	WS	Re: Hunting Season Table - Weasel and red fox are not hunted species.	ER	30	2.11.6	0

1537	WS	Re: Hunting Economics - The hunter participation data obtained from OFAH was misinterpreted and should either be corrected or omitted entirely (eg. for WMU 39 hunter demand far exceeds supply with only 194 tags available for 2182 applicants). Can only assume the hunter expenditure information is still valid. Where did the WMU specific expenditure estimates come from and what do the represent ... the numbers seem low.	ER	30	2.11.6	0
1538	WS	Not sure about the limited interaction with aquatic habitats comment. All of the game species discussed require water daily. Moose utilize areas of aquatic vegetation heavily. Deer cross the Vermillion at Wabagishik Rapids.	ER	30	2.11.6	0
1549	WS	Re: Final statement under Fishing - Statement that project will not signficantly impact fish populations in not defensible given loss of rapids and water level fluctuations currently proposed. Especially with no details provided regarding compensation and no concurrence on operating plan.	ER	31	2.11.6	0
1548	WS	Re: Sturgeon Population under Fishing - Need to reference confirmation of sturgeon presence in the Vermillion by Kilgour in 2012 and identify as a SAR.	ER	31	2.11.6	0
1551	WS	Statement re: Baitfish activities is incorrect - There are active baitfish areas allocated in both Nairn and Foster Township.	ER	32	2.11.7	0
1556	WS	Note: reference to a single Kaplan Turbine in this section while Section 3.3.1 on page 40 speaks to potential for more than one turbine unit. Given the challenge of operating with such a wide range of flows in the Vermillion including periods of very low flow suggest another look at feasibility of a paired low flow turbine to minimize extent of peaking and associated impacts during low flow periods.	ER	42	3.3.5	0
1560	WS	Re: Erosion Survey - Described as a desktop survey of upstream areas that may be sensitive to erosion. The bulk of concern regarding erosion would be downstream in VFR would it not? Surely an evaluation of potential erosion problems would involve more than a desk top study.	ER	49	3.6	0
1566	WS	Given the body of literature on the subject not sure how one can suggest that modified peaking with intermittent ops is environmentally sensible. Guess this ultimately depending on operating specifics yet to be resolved.	ER	49	3.6.1	0
1572	WS	Statement that 'modified RoR projects typically have less impact than longer term storage projects' may be true as far as upstream innundation / fluctuation goes but degree of downstream impact ultimately depends of the nature and extent of fluctuation and signficant daily fluctuation of discharge is proposed.	ER	51	3.6.1	0

1575	WS	Re: Variable Flow Reach - Description regarding impacts associated with variable flows is lacking. As per earlier comment daily manipulation of discharge has potential to substantially affect system productivity (consistently wetted habitat substrate modification related to erosion & sediment transport loss of vegetation dewatering and/or dislodging of benthic invertebrates reduced cyprinid production ice scour stranding of fish etc.).	ER	52	3.6.1	0
1574	WS	Re: Headpond Water Levels - Statement that headpond fluctuation 'will not signficantly impact shoreline erosion habitat or property' should be further rationalized.	ER	52	3.6.1	0
1573	WS	Re: Headpond Water Levels - State that 'ops will aim to follow natural lake levels while allowing for a +/- 5cm operating range'. In theory this sounds OK however needs to further defined via season rule curve / monthly target levels and compliance limits. Modelling results do suggest a potential backwater effect and the stated commitment that 'water levels at LTAF will be lower than 1:100 year flood levels in NOT good enough.	ER	52	3.6.1	0
1578	WS	Re: Compensatory Bybass Flow - While there is not bypass with a close coupled design still need to explore spillway flow depending on final design of spillway turbine(s) and tailrace in relation to available habitat. It may be necessary to maintain a specified flow over the spillway with the balance of the the minimum environmental flow passing thru turbine if low flow turbine capacity exists.	ER	55	3.6.3	0
1579	WS	Re: Table 3 - Operating seasons need to reflect biological considerations and related operating constraints. For example true RoR through spawn incubation drift (i.e. to June 30th).	ER	56	3.6.3	0
1580	WS	No agency concurrence at this point re: Qcomp & Qea. Values presently proposed reflect extreme low flow conditions and are not appropriate for daily manipulation scenario.	ER	56	3.3.6	0
1581	WS	Table 4 reports intermittent ops expected 16% of the time annually. Hence a higher Qea as requested will only affect 16% of annual ops.	ER	57	3.6.3	0
1583	WS	Statements that the proposed ops 'should not adversely affect downstream stakeholders' and that Xeneca can ensure 'no adverse effects only positive change' for any stakeholder in the Spanish / Vermillion is not defensible. There will be some level of impact on property owners anglers and other recreational users downstream as well as potential implications on Domtar ops at Espanola.	ER	59	3.6.5	0
1590	WS	Suggesting that +/- 5cm on the lake is within a natural range of daily water level fluctuation caused by wind and wave hence no concern is not really defensible. While the operating range is narrow the effect of daily fluctuation as a result of ops at Wabagishik will be additive to wind and wave action.	ER	78	4.4	0

1591	WS	Re: 'Agreement in Principal' that project will not affect Vale facility at Lorne Fall - Ultimately will require written concurrence from Vale (and Domtar) that concerns are adequately addressed.	ER	79	4.4.1	0
1596	WS	Under SAR - No consideration of sturgeon concerns / impacts.	ER	90	5.1	0
1595	WS	Under Water Quality - No consideration of concern expressed by the public regarding potential mobilization of sediments laden with heavy metals. Mitigation presumably linked to range of downstream flows and rate of change.	ER	90	5.1	0
1635	WS	Under Terrestrial Wildlife (access road) - Access road construction will fragment a relative undisturbed area. The impact may be low but there is always a RESIDUAL IMPACT where a new road is concerned.	ER	91	5.1	0
1600	WS	Under Fish Habitat (impacts related to peaking) - Discussion only relates to spawning window. On that front the only way one can say no residual impact to spawning would be to essentially operate as RoR through spawn incubation drift period for all 3 species of concern (i.e. to June 30th). Furthermore a discussion of fisheries impacts related to peaking needs go beyond just spawning. Peaking will have RESIDUAL IMPACT on fish / fish habitat in the VFR.	ER	94	5.1	0
1599	WS	Under Fish Habitat (loss to innundation) - There will be RESIDUAL IMPACT regardless of compensation efforts. Furthermore we have yet to see a compensation plan.	ER	94	5.1	0
1598	WS	Under Shoreline Dependent Species (impacts associated with water level fluctuation) - No discussion of downstream fluctuations which are much greater than upstream. Clearly there will be some RESIDUAL IMPACT albeit lower upstream than down.	ER	94	5.1	0
1601	WS	Under Fish Migration - There is definite risk to proceeding without a provision for upstream fish passage and this risk needs to be ackowledged through identified of RESIDUAL IMPACT. Interuption of downstream fish passage also presents a RESIDUAL IMPACT. Spawning adults that may come from the lake to use upper reaches of rapid area will not be present post innundation hence no recruitment to lower river from downstream drift. Qea does not address the impact of barrier / innundation on downstream movement of fish.	ER	96	5.1	0
1602	WS	Under Fisheries (impacts with ZOI) - Cannot suggest no residual impact to fishery. Habitat compensation and operating parameters have yet to be agree upon. Even with compensation there will be a RESIDUAL IMPACT associated with peaking.	ER	97	5.1	0

1604	WS	Under Water Levels & Flows - Cannot report no residual impact for either the lake or the downstream VFR. Regardless of Qea and other operating constraints yet to be agreed upon peaking will have an impact. Mitigation can reduce impact but not eliminate. There will be RESIDUAL IMPACT.	ER	98	5.1	0
1603	WS	Under Erosion and Sedimentation (related to construction & operations) - Should at least reference concern expressed regarding mobilization of heavy metals. Mitigation should include limiting range and rate of downstream fluctuation in addition to referenced upstream constraints.	ER	98	5.1	0
1605	WS	Under Navigation - The loss of the rapids certainly impacts the canoe / kayak feature a concern tabled by the public hence RESIDUAL IMPACT.	ER	99	5.1	0
1609	WS	Under Aesthetics - What about users of Wabagishik Rapids and the Vermillion River below. The project clearly present a RESIDUAL IMPACT to aesthetics.	ER	100	5.1	0
1608	WS	Under Angling - Peaking ops will present a RESIDUAL IMPACT to fish and use of area by anglers also a potential risk to saftey of anglers. Mitigation to include limits to range / rate of fluctuation but cannot eliminate impact.	ER	100	5.1	0
1607	WS	Under Recreational Use at Wabagishik Rapids - The upper portion of the rapid will be lost. Below the GS peaking and aesthetic impacts will affect recreational use. Mitigation to include limits to range and rate of fluctuation.	ER	100	5.1	0
1606	WS	Under Riparian Right - Need to acknowledge RESIDUAL IMPACT to landowners in downstream VFR.	ER	100	5.1	0
1610	WS	Under Spanish / Vermillion WMP - Will need concurrence from Vale and Domtar that there concerns have been adequately addressed.	ER	101	5.1	0
1611	WS	Under Enjoyment of Property - There will be a clear RESIDUAL IMPACTS to the landowners immediately downstream.	ER	102	5.1	0
1614	WS	Under Aesthetic Image of Surrounding Area - What about view of dam and loss of rapids a natural feature valued by many. Clearly a RESIDUAL IMPACT.	ER	103	5.1	0
1613	WS	Under Public Saftey (impact of ops on navigation & recreation) - Unless access is restricted at Graveyard Rapid peaking will present a RESIDUAL RISK to public saftey.	ER	103	5.1	0
1612	WS	Under Public Saftey (ice conditions) - RESIDUAL IMPACT. Posting signs will not alleviate concern. Limiting fluctuation will help but again may not eliminate risk.	ER	103	5.1	0
1618	WS	General operating constraints stated in this section are inadequate. Examples - levels not higher or lower than max or min or record +/-5cm beyond natural variance levels not below what would be expected under natural conditions. Additional dialogue and agency concurrence on operating strategy outstanding and outcome will need to be reflected in the ER.	ER	105	5.1.1	0

1615	WS	Re: Innundation - Wabagishik Lake is part of the headpond and needs to be clearly acknowledged as such. The suggestion that the decision to relocate the dam a couple hundred meters upstream avoiding high quality spawning area is the reason for the lake coupled approach is ridiculous and should be removed. Without the +/- 5cm on the lake there would be no potential to peak and that is clearly the reason.	ER	105	5.1.1	0
1620	WS	Re: Aquatic Habitat - Need some detail around compensation plan. Cannot claim no or even low effect with some vision on this front.	ER	106	5.1.3	0
1619	WS	Re: Flow Effects - No discussion of erosion concerns downstream where fluctuations will be much greater and more abrupt than on lake.	ER	106	5.1.2	0
1622	WS	Re: Mitigation - Cannot claim that design avoids significant impact to upstream habitat when 14,800 m2 of high quality spawning habitat is being flooded and fundamentally altered.	ER	107	5.1.3	0
1623	WS	Re: Fish Entrainment / Impingement - Design needs to consider swim speeds of a wider range of species in the system (e.g. smallmouth bass).	ER	107	5.1.6	0
1624	WS	Re: Navigation - Low flows and intermittent ops do not only occur during the winter but summer as well during peak recreational period. This section needs to acknowledge loss of canoe / kayak opportunity thu loss of rapid feature and identifiy potential saftey concern for boaters below GS (depends on envirnomental flow peaking flow and ultimately the range between the 2 extremes).	ER	109	5.1.7	0
1626	WS	Re: Private Property - The commitment that max upstream operating level will not exceed pre-construction high water mark and that backwater effect will not exceed natural high water mark may not be sufficient to address the concerns of shoreline property owners.	ER	110	5.1.9	0
1627	WS	Re: Land Use - Discussion should acknowledge tourism / recreation emphasis for G2033.	ER	112	5.1.13	0
1629	WS	Re: Canoeing / Kayaking - The recreational values of the site revolves around the fast water features at Wabagishik Rapids. Need to acknowledge loss of this opportunity.	ER	113	5.1.16	0
1631	WS	Re: Fishing - Will be impacted by peaking ops from GS to Graveyard Rapid. Not sure how one can suggest an improvement to navigation thru peaking. Re: Boating / Canoeing - Might be able to suggest improvement in lake via higher and more stable water levels but there will clearly be a negative impact thru loss of rapid feature and variable flow in VFR.	ER	114	5.1.21	0
1632	WS	Re: Climate Change - Is there not a risk of increasing periods of drought and less precipitation / river flow? This would decrease generation potential increase intermittent ops and associated impacts.	ER	118	5.4.7	0

1634	WS	Table 6 Under Water Quality (potential impact on effluent treatment at Espanola) - Committment to RoR during drought conditions will need to be further defined. Ultimately we will require written concurrence from Domtar that their concerns have been adequately addressed.	ER	119	6	0
1636	WS	Table 6 Under Water Quality (downstream fluctuation and suspended sediment) - Acknowledge concern regarding sediment laden with heavy metals. Ultimately the signficance of this effect depends on the range and rate of flow variation which has yet to be agreed upon.	ER	120	6	0
1638	WS	Table 6 Under Fish Habitat - Impact of modified operations on spawning could be a Signficant Residual Effect (not if RoR to June 30th).	ER	122	6	0
1637	WS	Table 6 Under Fish Habitat - Loss of habitat thru innundation is a Significant Residual Effect.	ER	122	6	0
1641	WS	Table 6 Under Fisheries - As per comments regarding fish habitat and passage there will likely be a signficant residual effect regardless of compensation measures.	ER	123	6	0
1639	WS	Table 6 Under Fish Habitat - Impact of modified ops on fish and benthic invertebrate habitat in VFR is a Signficant Residual Effect.	ER	123	6	0
1645	WS	Table 6 under Fish Entrainment / Impingement - Not sure how this effect can be ranked Not Significant when it has yet to be evaluated and discussed with DFO.	ER	123	6	0
1640	WS	Table 6 Under Fish Migration - Barrier represents a signficant residual effect relating to both upstream and downstream fish movement.	ER	123	6	0
1642	WS	Table 6 under Erosion (related to operation) - Do not believe erosion concern within downstream VFR was adequate evaluated.	ER	124	6	0
1643	WS	Table 6 under Recreational Use at Wabagishik Rapids - Positive Effect?? Did I really read this? Clearly loss of rapid feature and variable flows below GS represent a signficant negative residual effect.	ER	125	6	0
1646	WS	Re: Other Water Control Structures - Need to also acknowledge pre-existing impacts from Big Eddy High Falls and Nairn Falls as they affect the same aquatic system and same fish populations	ER	129	7.1	0
1648	WS	Re: Access Roads - The road referenced is not related to this site (cut and paste error?).	ER	130	7.1	0
1651	WS	Re: Flow and Innundation - Clearly there will be cumulative effects on fish populations below the proposed GS in combination with pre-existing Vale and Domtar facilities / operations.	ER	130	7.2	0
1653	WS	Re: Alteration / Destruction of Fish Habitat - Again there will be cumulative effects with pre-existing perturbations on this highly altered system. For all we know additional habitat alteration and flow modification could push sturgeon over the brink.	ER	131	7.2	0
1652	WS	Should be Spanish not Serpent WMP.	ER	131	7.2	0
1654	WS	Re: Shoreline Erosion - Erosion survey did not cover the downstream VFR where greatest fluctuation will occur.	ER	134	8.2	0

1658	WS	What about commitment re: Domtar effluent treatment. Need written concurrence from Domtar that concern has been adequately addressed and agreement re: RoR in drought conditions needs to be defined in the operating plan.	ER	137	10	0
1657	WS	Under Facility Ops - Should be Spanish not Serpent WMP.	ER	137	10	0
1660	WS	As per comments re: Sections 5 6 and 7 there are many additional residual effects to be considered some of which cannot be classified as insignificant and will add to existing perturbations on the system (i.e. cumulative).	ER	141	11	0
1625	WS	Re: Public Saftey - Need to acknowledge potential saftey concern for boaters below GS as per comment on Section 5.1.7.	ER	109 &	5.1.8	0
1628	WS	Re: Fishing - Recreational angling activity will likely be impacted by peaking operation over the long term.	ER	112 &	5.1.14	0
1630	WS	Re: Aesthetics - Outright loss of this natural heritage feature (rapids) represents a clear long term aesthetic impact.	ER	113 &	5.1.18	0
1633	WS	Re: Table 6 - Refer to comments regarding analysis of project effects presented in Table 5. There are many issues understated that need to be brought forward as Residual Effects. Some are specifically referenced below others are only noted in review of Table 5 but need to be addressed in both tables (eg. shoreline dependant species navigation riparian rights fishing aesthetics saftey etc.).	ER	119 - 1	6	0
1649	WS	Re: Assessment of Cumulative Effects - The various effects and issues noted as understated in Table 5 and needed to be carried forward to Table 6 also need to be carried forward and evaluated in this section.	ER	130 - 1	7.2	0
1655	WS	Will need effectiveness monitoring for habitat compensation and perhaps biological monitoring for sturgeon walleye and pike to ensure fisheries objectives are met.	ER	133 &	8.2	0
1659	WS	Must admit moving toward completion of EA with so many outstanding commitments would seem risky. Many of the outstanding issues to be addressed should be part of the EA process.	ER	136 - 1	10	0
1515	WS	Note: Nickle copper and aluminum PWQO exceedances above and below site. This would seem to suggest that public concern re: mobilization of heavy metals from sediments thru peaking are credible and should be addressed in the EA.	ER	14 & 1	2.8.2	0
1525	WS	Lake Sturgeon spawning surveys completed by NRSI in '2011' not '2012'.	ER	19 & 2	2.9.4	0

1570	WS	General Comment - Additional dialogue and agency concurrence regarding proposed operating strategies is pending. As currently proposed downstream environmental flows are too low representing extreme drought conditions and the overall range or amplitude of daily fluctuation during periods of intermittent ops is too high. We will also require confirmation as to whether proposed pulse operation will occur once per day or multiple times per day. Daily water level / velocity fluctuation certainly has potential to affect system productivity (consistently wetted habitat substrate modification related to erosion & sediment transport loss of vegetation dewatering and/or dislodging of benthic invertebrates reduced cyprinid production ice scour stranding of fish etc.). We acknowledge Xeneca's commitment for 'true' run of the river ops during the walleye spawning / incubation period but also need to fully cover pike spawn & sturgeon incubation & drift and we need to consider impacts at other times of the year. Effects on the full range of habitat types / channel profiles (e.g. fast water habitats & wetland areas) need to be considered in c	ER	48-59	3.6 (3.6.1 - 3	0
1585	WS	No reference to the key fisheries / hydrology concerns tables by MNR to date although there is reference to minutes of meetings in App C. Seems odd considering that key DFO and MOE concerns have been articulated in this section of the document.	ER	67 - 69	4.3.2	0
1594	WS	Re: Table 5 - Many of the key issues evaluated are misrepresented / understated. Evaluation for the following individual areas to be reconsidered.	ER	87 - 10	5.1	0
1597	WS	Under Terrestrial Wildlife & Habitat Linkages - Deer movement corridor / crossing to be considered as SWH as it is a signficant concern. Impact and mitigation for deer crossing relates to range and rate of downstream fluctuation.	ER	92 & 9	5.1	0
1479	WS	Re: Ecology in Executive Summary - Reports no SWH within vicinity of project - see comments re: Natural Environment Report	ER	iii	0	0
1491	WS	Re: Negative Project Effects in Executive Summary - Suggesting that it may be possible to 'preserve or enhance recreational value at Wabagishik Rapids is ridiculous. Need to be clear and up front about proposed tradeoffs.	ER	ix	0	0
1480	WS	Re: Operating Strategy in Executive Summary - Confusing reports innundation of 600m but then references lake coupled design and innundation area that includes the lake. Clarify.	ER	vi	0	0
1481	WS	Re: Operating Plan in Executive Summary - Downstream ZOI reported as confluence with Spanish with modelled 20cm fluctuation in headpond beyond confluence. I note the compliance commitment of +/- 5cm which may ensure minimal impact but can we say no influence.	ER	vi	0	0

1483	WS	Re: Consultation in Executive Summary - In addition to noted Vale tailrace concern Domtar has expressed concern re: effluent assimilation at low flow.	ER	vii	0	0
1487	WS	Re: Negative Project Effects in Executive Summary - Reports environmental flow of 2.3 to 2.6cms and 'controlled ops' during spawn. Accept that this is a first cut at the ER but for the record there has been no agency concurrence re: operating parameter during or outside of spawn / incubation.	ER	viii	0	0
1484	WS	Re: Negative Project Effects in Executive Summary - Erosion survey did not appear to cover either the full extent of upstream fluctuation or downstream VFR (i.e. only appears to address 600m upstream innundation area). Erosion within the balance of downstream VFR is a concern worthy of attention given extent of predicted daily fluctuation. While the signficance of a +/- 5cm daily fluctuation on shoreline / habitat in lake may be low it is not really appropriate to dismiss thru comparison to historic 'seasonal' fluctuation.	ER	viii	0	0
1488	WS	Re: Negative Project Effects under Executive Summary - Discussion regarding public saftey does not identify potential saftey concern to recreational users in downstream VFR (i.e. what about impact of abrupt flow modification on recreational boaters between GS and Graveyard Rapids and on ice conditions below Graveyard Rapids).	ER	viii & ix	0	0
1493	WS	Re: Cumulative Effects in Executive Summary - Need to acknowledge that downstream effects of facility and ops will be additive to the impact of Vale ops on Spanish above confluence with Vermillion and Domtar ops at Espanola. The is a highly altered system and limitation of fisheries values is already evident. Another development can only add to overall cumulative impact on the system.	ER	xi	0	0
1492	WS	Re: Residual Effects in Executive Summary - The suggestion that there will be no significant residual effects does not seem at all defensible given innundation of rapids and proposed daily peaking ops. Especially with the number of outstanding matters to be resolved (i.e. compensation operating plan etc.).	ER	xi	0	0
1494	WS	Re: General Commitments in Exective Summary - Note that habitat compensation requirement is acknowledge; however there is no plan in place not even conceptual. Obviously this limits comfort level regarding the magnitude of residual impacts.	ER	xii	0	0
1495	WS	Re: Operational Commitments in Executive Summary - Commitment to update the operating plan in consult with agencies needs to be met prior to EA completion as proposed ops present signficant environmental impact.	ER	xii & xi	0	0
1496	WS	Re: Operational Commitments in Executive Summary - Integration into SVRWMP needs to be further explored given identified implication to Vale and Domtars ops. Written concurrence by these parties will be required.	ER	xiii	0	0

1497	WS	Re: Operational Commitments in Executive Summary - Among other required modifications to operating plan run-of-river ops should cover incubation and disperals periods for both walleye and sturgeon in addition to pike walleye and sturgeon spawning windows.	ER	xiii	0	0
1504	WS	Re: Consultation Commitments in Executive Summary - Note intent to continue dialogue with FN stakeholders anglers etc. to address issues. Should issues stemming from consultation not be addressed as a component of the EA rather than after statement of completion.	ER	xiii & x	0	0
1508	WS	Re: Further Investigations in Executive Summary - What are enhanced erosion and reservoir sedimentation studies? Note: earlier comment regarding inadequate scope of erosion study (i.e. very little of downstream VFR evaluated).	ER	xiv	0	0
1505	WS	Re: Further Investigation in Executive Summary - Fully documenting impacts associated with innundation and flow modification should be part of EA not deferred. Need to clarify does this statement refer to unanticipated impacts or a commitment to monitor expected impacts or what?	ER	xiv	0	0
1511	WS	Re: Conclusion in Executive Summary - Change there 'may be' requirement for Section 32 & 35 Fisheries Act approvals to there 'will be'.	ER	xv	0	0
1510	WS	Re: Conclusion in Executive Summary - Statement that there will be no signficant residual effects and net environmental benefit is not defensible. The only valid environmental benefit being green energy.	ER	xv	0	0
	CG	Suggest including the word "proposed" before site name each time it is referenced. For example, executive summary page 3 paragraph 3, "The Wabageshik GS is located..." should be "the proposed Wabageshik GS is located...". The word proposed is often but not always included.	ER		Exec Summary	
	CG	Transmission lines. Please note that MNR staff have reviewed this ER with the assumption that transmision lines are part of the project being assessed. Comments have been scoped accordingly. Through previous discussions and an email to MNR dated August 31, 2012, Xeneca staff have suggested that it does not plan to assess the proposed transmission lines through the waterpower Class EA framework; rather, Xeneca planned to complete the assessment of transmission lines independently in time for MNR's permit and approval process, at which time MNR would follow its own decision-making framework with associated environmental screening. Section 3.4.1 and other parts of the draft ER indicates that transmission corridors are part of the project being assessed. We suggest that prior to submitting a final ER this be clarified and that Xeneca request a discussion with MOE and MNR about the most suitable approach.	ER	42	3.4.1	

	CG	If there is a chance any authorizations will be required under the Fish and Wildlife Conservation Act (FWCA) for effectiveness monitoring or other purposes, suggest noting it as a possibility here.	ER	135		
	CG	Species of Conservation Concern should be Species of Special Concern	ER		Table 5	
	CG	Reference made to "vulnerable" species twice. Likely should be "Species of Special Concern" if that was intent.	ER	17		
	CG	Prior to submitting Final ER, please ensure that all agency meeting minutes are included. Did not see the EA Coordination Meeting minutes dated Feb 8, 2011, in Appendix C.	ER		Appendix C	
	CG	Please ensure that the draft July 19 agency meeting minutes are replaced with the final version in time for final ER. Current version does not reflect my comments on draft minutes.	ER		Appendix C	
	CG	I suggest reviewing Bullets 4-9 and considering revisions to better clarify the process for the public so that they understand what opportunities they have to review the report, provide comments, attemp to resolve issues, and submit a Part II Order request to the MOE. The second last bullet suggests that the public will have the opportunity to review, comment and attempt to resolve issues before Notice of Completion is issued. From the schedule Xeneca has provided to MNR I do not believe that is the case. Perhaps this bullet was meant to say Statement of Completion.	ER	7	1.4.5	
	CG	It is correct that under current legislation the proposed transmission lines do not have to be screened through MNR's Class EA for RSFD projects. However the trigger for change was an amendment to Reg. 334 under the EA Act, not Reg 116. Suggest replacing the last sentence to "However, subsequent clarity on regulatory amendments resulted in the MNR's Class EA for RSFD Projects not applying to the proposed transmission lines. Amendments were made to Ontario Regulation 334 under the EA Act (s 15.0.1) that exempt any undertakings by or on behalf of the Crown that are being carried out only for the purposes of implementing a renewable energy project. Waterpower projects continue to be subject to the requirements of the EA Act under Ontario Regulation 116/01 with the OWA Class EA for Waterpower Projects as a primary planning process; however, the proposed transmission lines fall into Category A under Reg. 116 and therefore do not have any EA Act requirements. As the Ministry responsible for managing most Crown resources through disposition, approval and permits under a number of st	ER	5	1.4.1	
	CG	Appendix C - For ease of review by agencies, public and Aboriginal Communities, I suggest having the column headers reprinted at the top of each page.	ER		Appendix C	
	CG	I suggest referring to Appendix C here for ease of review by the public, agencies and Aboriginal Communities.	ER	6	1.4.3	

	CG	Review of the HEC-RAS modelling output indicates that the proposed operating plan may cause a reduction in head at the Lorne Falls Generating Station upstream. The proposed pattern of flow in the downstream variable flow reach may reduce generation potential at the Domtar GS downstream. Applicants who are applying for approval under the LRIA need to take into account the effect that the proposed work will have on the rights of riparian owners. Applicants must make every effort to protect the interests of land owners who will be impacted by the proposed works. For instance, where temporary or permanent flooding of land will occur, or riparian rights will be negatively impacted, a formal land tenure document, consent or release from the affected owners must be obtained. Applicants are advised to seek legal advice in this regard. In situations where the impact of a proposed work is expected to be minimal, applications may be approved under the LRIA if the applicant obtains the consent of the affected property owner(s). Pending the outcome of additional analysis, MNR will require some form of formal or written conse	ER			
	CG	"A distance of approximately 4 km separates the headpond of most-upstream Espanola dam and the location of the proposed Wabageshik Rapids facility." For clarity, I suggest adding "upstream limit of the" headpond of most upstream Espanola dam, if that is what was intended.	ER	58		
	CG	Post-construction Monitoring. Paragraph 2 in Section 1.4.4 mentions that recommendations for ongoing monitoring to confirm the short-term or long-term effects are included within the ER, and that environmental monitoring will be subject to regulatory approval at the permitting stage in advance of construction. Section 8.1 and 8.2 provides some additional information, but overall does not adequately address MNR's expectations monitoring as associated with MNR's mandate and permit and approval requirements. Comments on topic-specific monitoring needs are provided throughout this submission from MNR, based on MNR's review in accordance with its mandate. 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. Post-construction monitoring for these purposes will become requirements of various permits and approvals issued by MNR (e.g., approval of the plan for operations as per S23.1 of LRIA). We suggest that they should be included in ER for revie	ER	7, 132	1.4.4, 8.1 and 8.2	

	CG	Post-construction Monitoring (continued). 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: 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?	ER	7, 132	1.4.4, 8.1 and 8.2	
	CG	Section 9, Table 7, should reference MNR's Site Release Policy and the need for Applicant of Record status. MNR notes that Xeneca has not completed the site release process for this site and does not have Applicant of Record Status. As previously communicated, MNR is committed to participating in the proponent-led EA while Xeneca concurrently works through the site release process. We encourage proponents to complete site release in advance of conducting their EA. MNR is reviewing the draft ER with respect to MNR's mandates and to clarify expectations for MNR's permit and approval process. It is expected that proponents will have Applicant of Record status before MNR issues any approvals or permits required to support the waterpower project.	ER	135	9	
	CG	With respect to transmission lines, MNR Fire Program staff advise to ensure that proponents are aware of and document requirements for clearing areas under transmission lines, and assure maintenance of these areas to ensure that unwanted forest fires are not started as a result of trees falling/growing into the power lines. Consideration of the amount of cleared land required (permanently) for transmission can often impact environmental significance and should be considered and documented in the ER.	ER (and Annex VI)	42	3.4.1	
	CG	With respect to clearing vegetation, MNR Fire Program staff advise to ensure that proponents are aware of and account for additional requirements regarding work modifications (or potential work suspension) as a result of forest fire hazard when clearing/harvesting under an overlapping licence.	ER	46	3.5.1	

	CG	Proponents should be aware of Forest Fire Prevention Act requirements during both construction and operation of the facility (fire prevention as well as debris management requirements, need for permits, etc... if planning to burn debris).	ER		3.5 & 3.6, Table 7	
	CG	Second paragraph states that, "The proponent is required to determine the flows required to maintain aquatic ecosystem integrity in the project's zone of influence". This is true, but is not restricted to aquatic ecosystem. When contemplating decisions under the LRIA, the MNR will consider how the proposed location, design and operations of the dam will impact our ability to meet all purposes of the LRIA, as well as considering other applicable legislation such as the ESA and PLA. The purposes of the LRIA are to provide for: a. the management, protection, preservation and use of the waters of the lakes and rivers of Ontario and the land under them; b. the protection and equitable exercise of public rights in or over the waters of the lakes and rivers of Ontario; c. the protection of the interests of riparian owners; d. the management, perpetuation and use of the fish, wildlife, and other natural resources dependent on the lakes and rivers; e. the protection of the natural amenities of the lakes and rivers and their shores and banks; and	ER	15	2.8.1	
	CG	Note that throughout all documents the site and lake are inconsistently referred to as Wabageshik and Wabagishik.	All	All		
	CG	The site operating strategy described in ER does not seem to reference expected seasonal variation in operations and Xeneca's proposed commitments to mitigate seasonally-specific effects that have been discussed at agency meetings. For example, I do not see any reference to Xeneca's proposal (from July 2012 meeting with MNR, MOE and DFO) to provide inflows=outflows instantaneously and at all times during the critical spring spawning, incubation, hatch and dispersal periods. The second paragraph under 3.6.1 implies that Xeneca's proposed "modified run of river and intermittent operation depending on the flows present in the river" is proposed year-round. While Annex 1 provides some additional detail on proposed operations, I suggest these details should be included in main report for full transparency and to avoid confusion for agency, public and Aboriginal reviewers. Full disclosure on proposed operations is expected in the ER and throughout the EA process if Xeneca is attempting to meet the intent of WMPing through its EA and to avoid the need for additional consultation at a later time to info	ER	49+	3.6.1	

	CG	I do not see any reference to the time period within which storage will occur during Xeneca's proposed "modified run-of-river" operations. Over what time period will total inflows=outflows? In previous discussions (perhaps on other sites), Xeneca clarified that storage would not occur for more than 24 hours, meaning total inflows would = total outflows over a 24 hour period, even on weekends and holidays when power demand is lower. MNR requires clarity on this type of operating detail (temporal period of storage) before it can fully consider and comment on the adequacy of Xeneca's impact assessment and proposed mitigation, and before it can contemplate issuing permits and approvals for the project. This type of clarity should be provided to the public and Aboriginal communities in the final ER to help meet the intent of LRIA S23.1 planning through the EA. Note that we recognize that Xenca-agency discussions on a mutually agreeable operating plan (as a starting point for consultation) are ongoing in a parallel process to this ER review and we can likely sort out these details during discussion).	ER	50-51	3.6.1	
	CG	Last two lines on page indicate that under the proposed operating scenario, "When natural flows exceed the amount of water that can be passed through the turbines, excess water would be diverted through/over the dam (spillway). The combined flow of the water passed through the turbine to generate electricity and the water bypassed over the spillway will be equal to the natural flow of the river". What about a scenario where upstream headpond water level has dropped below optimal level for operations? Would Xeneca then not be holding back excess water to refill head pond while also operating at full capacity? If so then the sentence provided in ER may mislead public and Aboriginal reviewers. Perhaps add to scenario that headpond is full.	ER	49		
	CG	I suggest replacing, "These efforts resulted in a mutually agreed upon approach for the development planning and approval process" with, "These efforts resulted in a mutually-agreed upon communications strategy and a single point of contact for Xeneca's questions about process". Also I suggest not referenceing the July 19 meeting as the first meeting since there were a number of previous district meetings.	ER	69	4.3.2	

	CG	The draft ER document should include maps of all areas studied and clarity on what types of studies occurred where. Without this it is difficult for MNR to review and comment on the adequacy of the information provided (including the environment, potential impacts and impact management strategies) as it relates to MNR's mandate, and to provide constructive advice on what is still required to provide for our permitting and approvals process. Section 1.4.2 refers to the "proposed development area", the "project area", and the "site". Through agency discussions wth Xeneca we are aware that the anticipated zone of influence has increased in area through time as Xeneca further ackowledged the desree of system alteration associated with the proposal. Thus it is unclear what studies were completed where, relative to the final proposed ZOI (note: which still requires discussion, see comment elsewhere)	ER	6	1.4.2	
	CG	Through various sections of the ER Xeneca identifies the need to prepare a water management plan in accordance with Section 23.1 of the LRIA. Recent changes have been made to S23.1 of the LRIA that may affect how proponents are expected to plan for the operations and maintenance of facilities in the future. Specifically, the changes enable the MNR to order applicants of S14 and S16 LRIA approvals to prepare a S23.1 plan for the operations and maintenance of a facility. This legislative change may result in changes to the way that LRIA approvals are sequenced and coordinated in the future. The MNR is currently contemplating new policy to reflect this change to the LRIA and to design a new S23.1 planning process that is suited for new facilities. Xeneca may choose to acknowledge this somewhere in their ER.	ER, Annex1	11, 137		
	CG	To meet the intent of water management planning through the EA, it is expected that the public and Aboriginal communities will have sufficient opportunity to participate in the planning for the operations of the facility and for the management of flows and levels in the river system. Full transparency should be provided on the boundary of the anticipated ZOI, the degree to which the system is proposed to be altered, any identified potential effects and associated impact management strategies, so that potentially affected individuals can recognize and communicate any concerns. Early in the process, interested parties should have the opportunity to identify existing values and uses that can then be considered when setting objectives and constraints for the plan. 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, to support the LRIA decision making framework.				

	CG	When making decision under LRIA S23.1 the MNR will consider what concerns were raised by the public and Aboriginal communities and how those concerns were considered and addressed during the development of options and selection of the final proposed option for the management of flows and levels. We suggest that further detail should be provided within the final ER on what concerns were received and how they were addressed throughout the planning process. For example, the draft ER reports very little on concerns raised by Aboriginal communities, and the consultation plan indicates that engagement will occur after the Notice of Completion is issued. This is not conducive to meeting the intent of WMPing through the EA since the feedback provided will not be incorporated into the final proposal in final ER.				
	CG	When contemplating a decision under S23.1 of the LRIA the MNR will consider what information was provided to the public and Aboriginal Communities during the consultation opportunities, including how the proposed alteration to the system was described and the extent to which environmental impacts were identified and communicated.				
	CG	For efficient consultation through the EA, we recommend that Xeneca first come to a consensus with agencies on options that are feasible with respect to the associated legislation, then use these options as a starting point for external consultation. Since you are preparing your final ER, we suggest you complete this step before initiating the final public review phase.	Annex 1			

Danielle Dempsey

From: Greenaway, Christine (MNR) <Christine.Greenaway@ontario.ca>
Sent: October-16-12 3:52 PM
To: Nava Pokharel
Cc: Robinson, Bob L. (MNR); O'Farrell, Brendan (MNR); Andrew Schiedel; Tami Sugarman; Pyrce, Rich (MNR); Turnbull, Brian (MNR); Khan, Mohammad Sajjad(ENE); Uwe Roeper; Mark Holmes; Ed Laratta; Kai Markvorsen
Subject: RE: Hydrologic Assessment Table - Wabageshik Rapids

Thanks Nava,

We will review this within MNR and let you know if we have any questions.

Christine Greenaway
A/ Renewable Energy Coordinator
Northeast Region
Ontario Ministry of Natural Resources
Hwy 101 East
South Porcupine, ON P0N 1H0
Phone: (705) 235-1185
Fax: (705) 235-1246
Email: Christine.Greenaway@Ontario.ca

From: Nava Pokharel [mailto:NPokharel@xeneca.com]
Sent: October 12, 2012 5:06 PM
To: Greenaway, Christine (MNR)
Cc: Robinson, Bob L. (MNR); O'Farrell, Brendan (MNR); Andrew Schiedel; Tami Sugarman; Pyrce, Rich (MNR); Turnbull, Brian (MNR); Khan, Mohammad Sajjad(ENE); Uwe Roeper; Mark Holmes; Ed Laratta; Kai Markvorsen
Subject: Hydrologic Assessment Table - Wabageshik Rapids

Hi Christine,

As requested in the recent agencies meeting, we have filled the hydrologic assessment table of Wabageshik Rapids Project. I have attached the table with this email. If you have any questions on this, please let us know.

Best Regards,
Nava Pokharel

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MNR COMMENTS on the WABAGESHIK DRAFT ER

PROPONENT:	**Xeneca Power Limited Partnership / Xeneca Power Development Inc. ("Xeneca")**
PROJECT TITLE:	**Wabageshik Falls Hydroelectric Generating Station (GS) Project**
PROJECT LOCATION:	**Vermillion River**
PREPARED BY:	**Xeneca Power Development Inc.**

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XENECA'S RESPONSE TO MNR COMMENTS ON WABAGESHIK DRAFT ER

(Letter Dated September 28, 2012)

1. Xeneca's Response to MNR Letter

RE: Review of Draft Environmental Report - Proposed Wabageshik Rapids Generating Station

Thank you for providing the Ontario Ministry of Natural Resources (MNR) the opportunity to review and comment on the draft Environmental Report (ER), dated August 2012, for the proposed Wabageshik Rapids Generating Station.

To assist Xeneca Power Development Inc. (Xeneca) with its environmental assessment (EA) MNR staff have completed a technical review of the draft ER based on MNR's mandated areas of responsibility. Enclosed are comments resulting from the review by MNR staff from the Sudbury District office and the Northeast Regional office. Principal findings are summarized below, with all comments attached to this letter. MNR welcomes further dialogue as you proceed with the EA process and the subsequent permitting and approvals process.

Anticipated Zone of Influence (ZOI)
When contemplating decisions in accordance with legislation associated with a proposed waterpower development, the MNR will require an understanding of the total anticipated lOI boundary, proposed system alterations within that boundary, the associated impacts, and proposed mitigation strategies. It is also necessary that this information be used as the basis for conducting Aboriginal consultation and any public consultation that is required to support MNR's decision-making framework under various pieces of legislation.

At the time of this draft ER review, total consensus has not been reached on the ZOI and its potential effects. It remains unclear whether the effect of the proposed dam operations will be detectable beyond the confluence with the Spanish River, and particularly whether there will be impacts on downstream riparian owners. MNR recommends that Xeneca establish a full understanding of the anticipated effects of the proposed operations, to the point where they are no longer discernable from the reference state. We recognize that significant progress has been made towards a consensus, and look forward to continuing discussions on defining the downstream limit of a ZOI.

Xeneca's Response:

Discussion about the extent of the ZOI started in mid-2011. MNR indicated that it would be important to clearly define the downstream and upstream ZOI. To this end, Xeneca has made major revisions to the proposed operations plan and undertaken detailed hydraulic studies to better inform discussions about the extent of the ZOI. We believe this information is helpful in addressing MNR's questions on the ZOI.

With respect to the upstream ZOI, Xeneca has firmly committed to follow natural lake levels in Wabageshik Lake throughout the year and to not significantly alter seasonal levels. Monitoring has shown that the lake levels fluctuate naturally by approximately 150 centimeters throughout the year. The operating commitment made by Xeneca will ensure that this natural cycling in lake levels will continue except for a very small effect at very low lake levels (i.e. the proposed dam will prevent lake levels from dropping to very low levels during droughts).

Xeneca has noted that it plans to operate on daily basis, resulting in daily fluctuations upstream of +/- 5 centimeters. This operating commitment has been specifically made to ensure that any possible impact of daily operation is not readily perceptible to the naked eye.Xeneca has illustrated that this daily change will be less than the daily fluctuations that occur naturally due to waves, wind set up, seiche, boating and other factors that cause lake levels to fluctuate slightly on a continuous basis. Xeneca believes that thes rigorous upstream level commitments will ensure that there is no significant environmental effect upstream due to daily operation.

With respect to the downstream ZOI, Xeneca has indicated that it will operate so that the water levels in the Spanish River are not affected by more than +/- 5 centimeters, thereby ending the downstream ZOI at the confluence of the Vermillion and Spanish River (i.e. immediately downstream of Graveyard Rapids, approximately 4 km downstream). Xeneca has carried out detailed hydraulic modeling to confirm that this rigorous operating commitment is achievable.

At a recent agency coordinating meeting, MNR questioned the potential limitations of predictive modeling and the value of +/- 5 centimeters as a de minimus value representing no significant environmental effect. Xeneca proposed two strategies to address these questions. Firstly, Xeneca promised to retrieve water level monitoring data from existing recorders to validate the accuracy of the hydraulic model predictions. Secondly, Xeneca committed to verification monitoring after project start-up to validate the model predictions and to serve as evidence of compliance to the operating commitments made.

After the coordinating meeting, Xeneca retrieved the first year of water level monitoring data from recording stations along the river (one upstream and two downstream). The observed water level recordings are very consistent with the model predictions and should resolve any questions about possible model limitations. The data also show regular daily fluctuations of water levels in the Spanish River of +/- 10 centimeters. In addition, the timing of the fluctuations occurs such that they largely off-set one another (i.e. this has to do with daily level operation at the Domtar dam). This data provides further evidence that the proposed compliance limitations of +/- 5 centimeters:

- is consistent with natural daily variations,
- will have no significant environmental effect, and
- limits the downstream ZOI to the base of Graveyard Rapids are previously defined.

As to the impacts within the extent of the downstream ZOI (i.e. within the first 4 km downstream of the dam), extensive environmental studies have been carried out and documented in the ER. To the extent that MNR has questions on this information, Xeneca would welcome further discussion and joint review of the available information. It should also be noted that Xeneca has committed to fluctuations of not more than +/- 15 centimeters in most of the 4 km downstream ZOI extent, thereby constraining any larger fluctuations to the first 0.3 km downstream.

With respect to downstream riparian owners, Xeneca has made extensive efforts to inform downstream stakeholders. Three public information centres (PICs) have been held on this project as well as other stakeholder specific follow up. Specific follow up has occurred with key land owners, including Domtar and Vale. The issue of daily operation and the extent of the ZOI have been very clearly presented and various comments and follow discussions with stakeholders have occurred. Xeneca would be pleased to review the related consultation with MNR in more detail.

Xeneca recognizes the importance of defining the total ZOI boundary. We would like to work with MNR to ensure that consensus on the ZOI is reached. We believe all the necessary information has been collected and made available to inform the discussion. We would like to review this information with you at your earliest convenience.

Authorizations under the *Lakes and Rivers Improvement Act* (LRIA)

A number of key concerns relating to MNR's mandate under the LRIA require further consideration. Specifically, impacts to shoreline & wetland dependant species, deer migration, fish and fish habitat, recreation, erosion potential and downstream riparian rights. The proposed operating plan, erosion potential assessment and hydrology studies presented in Annex I will help inform MNR when considering LRIA approvals, however, several comments are provided to improve MNR's understanding of the information that will be essential at the permitting phase of the project.

• Consideration of impacts to the aquatic ecosystem is required, with adequate water flows and levels provided for these values. Discussions between Xeneca and MNR have focused on providing water for the reproductive windows of key fish species; however, effects on the full range of habitat types and channel profiles (e.g. fast water habitats & wetland areas) and aquatic species need to be considered in order to inform decisions regarding appropriate operating strategies.

• The proposed operating plan as presented is incomplete. Efforts are on-going between Xeneca and MNR to address several aspects of the operating plan, however, this review also identifies rapid ramping rates, low environmental flows and uncertain water levels as aspects to be addressed. A dam operating plan typically describes the magnitude, duration, frequency, timing and rate of change of flows and levels, for water passed through the turbines and spillway. 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 complete dam operating plan deemed acceptable by the MNR will be required prior to the granting of approvals under the LRIA.

• It is unclear what shoreline erosion could result from proposed operation of the dam. MNR suggests that a full evaluation of erosion potential, including field verification, be completed and evaluated, with proposed mitigation where appropriate.

• Further examination of the hydrological modeling reveals uncertainty with actual versus modeled flows. Greater certainty around hydrologic flows and levels, in the context of an established zone of influence and riparian impacts, will aid in completing a proper assessment of inputs required for LRIA approval. As with the draft operating plan, MNR is providing comment in conjunction with the current efforts to address the hydrological work to date.

Xeneca's Response:

As noted in your comments, some aspects of LRIA are relevant to the EA while others relate to post-EA approvals. At this time, Xeneca is most interested in resolving any outstanding environmental matters related to the EA. However, Xeneca is committed to working with MNR to address any post-EA information needs and LRIA requirements. Further, the comments made above are consistent with those made at the recent agency coordinating meeting. Follow up has been occurring on various comments, including the shoreline & wetland species, deer migration, fish and fish habitat, recreation, erosion potential and downstream riparian rights.

With respect to shoreline & wetland species, location specific information for the tributaries in the downstream ZOI has been worked up and presented to MNR recently. This information includes elevation profiles that show the distance from the mouth of the tributary that could be affected by downstream water level fluctuations. Also available for these locations is the habitat inventory information gathered. The information shows that the tributaries are only affected for a short distance upstream from the mouth of the tributary. As a mitigation strategy, Xeneca has committed to limiting daily water level fluctuations due to operations to +/- 15 centimeters in the area of the tributaries. Xeneca will ensure that the effects evaluation section in the EA clearly outlines any impacts and mitigation. Xeneca would appreciate the opportunity to review and discuss this information with MNR staff in-person and to answer any outstanding questions.

With respect to deer crossing, Xeneca moved the dam from its original location to a new location (0.3 km upstream) to ensure that the main deer crossing location would be maintained. Xeneca initiated wildlife camera studies and these have shown that deer crossings occur primarily at the start and end of winter (i.e. to and from the overwintering areas). Hydraulic modeling has been carried out to better understand the water depths at the main crossing location under various flow and operating conditions. The proposed daily operation will cause water levels to fall below normal levels for 16 hours per day and then rise above normal levels for 8 hours during the day (typically from 11 am to 7pm). Deer would experience lower water levels (i.e. during the 16 hours per day of below normal low flow) which do facilitate crossing. In this way, the operation is expected to facilitate the deer crossing activity and off-set the loss of the two lesser crossing locations located a few hundred meters upstream. Xeneca is committed to continue the current deer crossing monitoring for 2 years past start-up to confirm deer crossing success.

Observations have shown that the deer crossings occur primarily from 8 am to 3 pm. Under typical operation, water levels would be lower than normal from 8 am to 11 am, but higher than normal from 11 am to 3 pm. Wildlife camera monitoring will be continued after construction to observe if deer utilize the lower water levels from 8 am to 11 am or not. Depending on the results, Xeneca will review the operating plan with MNR. At

certain flow rates, the option exists to delay the daily onset of high flows, without negative economic impact on plant operations. Similarly, flow can be increased to rates similar to natural rates at 11 am before further increasing flow rates later in the afternoon. In summary, sufficient operational flexibility exists to adequately mitigate deer crossing impacts between 8 am and 3 pm depending on the outcome of the post-operational monitoring and deer behaviour.

Notwithstanding the above, various articles indicate that deer can swim well, fast and for long distances. They are strong swimmers and regularly cross large rivers like the Columbia and Peace. Air-filled hairs of their coats enable them to swim easily. Deer often take to the water to elude their enemies. From this point, it should not be a concern for deer crossing through Wabageshik River with a width of 100 m.

Fish and fish habitat has undergone extensive study over the past 3 years, and has led to a very comprehensive understanding of existing conditions. Mitigation strategies include specific commitments to run-of-river operation during spawning and compliance constraints to daily level changes upstream and downstream. We believe Xeneca has gone to great length to ensure minimal impact; however, we would like to identify and resolve any remaining concerns that MNR may have on this topic.

Recreation uses have been extensively explored during the stakeholder consultation process. Xeneca has committed to leave seasonal lake levels upstream essentially unchanged. Hydraulic studies have shown that operation will not significantly affect boating activities downstream. To further address any concerns on downstream boating, the operating plan commits to go into run-of-river operation during droughts and to maintain minimum levels (i.e. 198.01 m MSL) in the ZOI during operation. Based on the stakeholder consultation process there is no boating activity at the dam site located in Wabageshik Rapids, therefore no change to current navigation is expected. However, Xeneca would like to better understand any concerns that MNR may still have on recreational matters and we would like to meet with you to better define and understand those concerns. Xeneca endeavors to work with MNR to address any recreational questions before the LRIA approvals are required.

Erosion potential has been assessed for this project and Xeneca would welcome the opportunity to discuss the available information. As already stated, there will be no changes to natural lake levels; therefore, no erosion impact on the shoreline of Wabageshik Lake is anticipated. The amount of upstream inundation related to this project is minimal. It consists of a 800 meter long channel where water depth will be increased an average of 3 meters (i.e. 1 meter near Wabageshik Lake and 6 meters near the dam site). The new shoreline on the south side will be primarily bedrock with limited erosion potential. On the north side of the channel, much of the new shoreline is also bedrock, except in a small area near the dam site where a gravel deposit exists. The gravel deposit appears to contain very few fines (i.e. clays and dispersive type material). Hence the impact on turbidity from exposure of the gravel to water is not expected to be a concern. The slope stability of the gravel will be assessed as part of the detailed engineering design as required under LRIA and to ensure that slumping or other erosion is not triggered by inundation.

As discussed in ZOI discussion above, extensive efforts have been made to work with riparian owners. Xeneca would be pleased to discuss this topic area further with MNR. We believe that any specific technical concerns that were raised by these stakeholders in the past have been thoroughly studied and addressed.

With respect to aquatic ecosystem considerations, Xeneca would welcome further discussion on any matter related to mitigation. We strongly believe that all the necessary baseline information is available to inform the discussion and arrive at a consensus.

Xeneca is concerned about the comment that the operating plan is incomplete. Great effort was made after the 2011 meeting to provide the additional information requested. The information on water levels has been studied in great detail using hydraulic modeling. The questions on the magnitude, duration and frequency of changes in flows and levels have been addressed through the development of a series of daily and hourly operations graphs. Xeneca would like to review the information with MNR to see what information is still required. Xeneca shares MNR's desire to arrive at effective mitigation and monitoring strategies. Xeneca is also very interested to meet with MNR to resolve any outstanding discussion on minimum flows (at the most recent meeting a value of 5 cms seems to have been accepted) and levels.

With respect to the hydraulic modeling further work, Xeneca recently received the water level recorder data that confirms the results of hydraulic modeling. As noted above, it also provides information to confirm the end of the downstream ZOI. Xeneca looks forward to discussing this information with hopes that we can conclude the acceptance of the hydraulic modeling work.

Water Management Planning

Through various sections of the ER, Xeneca has identified the need to prepare a water management plan in accordance with Section 23.1 of the LRIA. Recent amendments to the LRIA may result in changes to the way that LRIA approvals are sequenced and coordinated in the future. The MNR is currently contemplating new policy to support planning for the operations and maintenance of dams and to design a process that is better suited for new facilities. In the interim, it is expected that proponents can meet the intent of water management planning through the preparation of their ER and MNR's subsequent review and approval of the project under the LRIA. 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 operation of the facility and for the management of flows and levels in the river system. The boundary of the anticipated ZOI, the degree to which the system is proposed to be altered, and the potential effects and associated impact management strategies should be presented to allow potentially affected individuals the opportunity to communicate concerns.

Early in the process, interested parties should have the opportunity to identify existing values and uses that can then be considered when setting objectives and constraints for the plan. 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. Xeneca has included a draft operating plan and proposed water management plan amendment in its draft ER submission. As described above and in the detailed comments, efforts are ongoing between Xeneca and the MNR to come to a consensus on a dam operating strategy that will meet the purposes of the LRIA and other applicable legislation. It can be expected that the operating plan as proposed will be modified upon further discussion with agencies. For efficient consultation through the EA, we recommend that Xeneca first come to a consensus with agencies on options that are feasible with respect to the associated legislation, then use these options as a starting point for external consultation. Since you are preparing your final ER, we suggest you complete this step before initiating the final public review phase. Finally, we remind Xeneca that the operation of the proposed facility will have to be aligned with the existing draft water management plan for the river system. A formal agreement or letter of consent will be required from the upstream and downstream dam operators.

Xeneca's Response:

Xeneca appreciates MNR's clarification of the ongoing changes to the water management planning (WMP) process. It should be noted that Xeneca has taken several steps to ensure that stakeholder consultation on WMP is incorporated into the EA consultation process to the extent possible. These steps include:

- A discussion on WMP has been incorporated into the Operations Plan (version 2) to make the reader aware of the relevance to the EA and WMP process.
- Riparian owners on the river were contacted and engaged in consultation, including Domtar, Vale and a riparian farm property.
- Xeneca and its consultant have reviewed the WMP currently in draft for the Spanish and Vermillion Rivers.
- Xeneca, Domtar and Vale have exchanged flow data and study results related to WMP.
- Xeneca has highlighted WMP in the most recent (3rd) public information centre (PIC) by presenting a separate poster on the topic to stakeholders.

We hope that the above steps will help in allowing a smooth transition from the EA process to the WMP process. Xeneca looks forward to any further guidance that MNR may be able to provide on the changing regulatory process for WMP. Xeneca would like to work with MNR to arrive at a consensus on the operations plan as suggested. We would like to meet with MNR at the earliest convenience to do so.

Aboriginal Consultation

As per section 7.1 of the Class EA guide, Aboriginal consultation for related regulatory processes should be coordinated and harmonized. It appears from statements in the ER that Xeneca has not yet completed the procedural aspects of Aboriginal consultation.

• Page 82 of the ER, in reference to letters provided by Xeneca to Aboriginal communities of May 13, 2011, "It was stated 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.

• In section 2.3 of the Aboriginal Consultation Plan states "The next step is to create a plan for future consultation and continued relationship building."Based on the information contained in the ER, the MNR 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 Wabageshik proposal
• Demonstrate that all Aboriginal communities have received the appropriate information on the project and its impacts
• Show how 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
• Provide the follow up communications to the communities which explain Xeneca's response to their concerns

In the ER, it appears that consultation with Metis communities is ongoing and incomplete. At this point in time, and until Xeneca provides an update to the Aboriginal communities' response to the ER review, the MNR is not in a position to evaluate whether or not the Crown's duty to consult has been met, nor can we advise what further actions by Xeneca would be necessary to enable the issuance of permits and approvals for this project to proceed. Public Information Centres are not necessarily the appropriate method to engage and consult with Aboriginal communities and may require further separate meetings. Further consultation is at the discretion of the proponent at this stage of the process. However, prior to issuing permits and approvals, the MNR 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.

Xeneca's Response:

Xeneca's consultation with First Nation and Métis Councils is ongoing. Xeneca's consultations with First Nations noted under the ACP are complete.
As an ongoing sound business practice, Xeneca will continue to keep FN groups advised of major developments in the project. Xeneca engagement with the numerous communities is varied depending on the community's acceptance and availability to work with Xeneca. Xeneca's efforts have been successful with respect to meeting with most communities and councils on the development of a process to move consultation forward. Xeneca's project falls within a range of interest in an Aboriginal community or council's administrative and socio-economic state of affairs. In many circumstances Xeneca's Wabageshik Project falls within "not a priority" and in other First Nation communities to higher interest in other communities.

Xeneca recognizes and appreciates the capacity challenges for communities to deal with all manners of priorities and pressures of governance and recognises the importance of keeping a good relationship with Aboriginal communities. In this regard, Xeneca has provided all available project information to communities and has invited communities to all our PICs and invited them to participate in archaeological stage two field work surveys. Xeneca also has offered communities to participate at public information centers and further invited communities to meet with in their community and host the Xeneca team to present information and generate meaningful dialogue about the project.

Xeneca has provided copies of our draft EA to the listed communities on the Wabageshik Rapids project.

Xeneca was initially advised in February 2011 that the following communities and organizations should be consulted on the Wabageshik Rapids project through the MNR's site release process:

- Atikameksheng Anishnawbek (Whitefish Lake First Nation) ("WLFN")
- Wagamok Anishnawbek (SA)

- Wikwemikong Unceded Indian Reserve (Wikwemikong)
- Metis Nation of Ontario:
- Sudbury Metis Council
- North Channel Metis Council

Originally, WLFN and SA were determined to be "identified" communities pursuant to MNR's site release policy for waterpower projects. Subsequently, the MNR added Whitefish River First Nation ("WRFN") to the list of consultation communities and determined it to also be an identified community as of September 26, 2011.

On October 28, 2011, Xeneca was advised by the Federal Agencies to add a number of additional communities and organizations that we were required to consult under the federal Canadian Environmental Assessment Agency (CEAA) process. These included the following communities and organizations:

- Wahnapitae First Nation
- Serpent River First Nation
- Aundeck Omni-Kaning First Nation
- M'chigeeng First Nation
- Sheguiandah First Nation
- United Chiefs and Councils of Mnidoo Msising

Xeneca has performed the following sets of actions in consulting with Aboriginal communities and organizations:

- Xeneca mailed letters to WLFN, SA and Wikwemikong advising that it had been awarded a Feed-in-Tariff (FIT) contract for Wabageshik Rapids with an invitation to enter into discussions about this project (and others) falling within their traditional lands on June 24, 2010. The Métis Nation of Ontario were advised on June 10, 2010 that Xeneca had been awarded FIT contracts – as we did not at that time have details of all of the available local councils;

- Xeneca mailed letters to FLFN, SA, WRFN and Wikwemikong, the detailed completed and proposed archaeological investigations in the project area, and included a copy of the "Summary Report for the Stage 1 Archaeological Assessment of the Proposed Vermilion, Wabageshik hydroelectric project".

- Notice of Commencement was issued July/August 2010, and subsequently revised and re-issued on November 10th and 17th of 2010. On May 13, 2011, the copies of the past Notice of Commencements that had been previously issued to all of the provincial consultation communities, along with copies of previous correspondence sent to those communities, the Public Information Centre (PIC) media advertisements and a CD that had the project description.

- The first draft of the Aboriginal Consultation Plan ("ACP") was sent on August 18, 2011 to all of the provincial consultation communities. A revised Aboriginal Consultation Plan was prepared and issued July 2012 and copies were sent to both the provincial and federal consultation communities.

- A summary package with a revised Project Description was issued December 13, 2011. The revised Project Description was issued because of changes in the proposed location of the project site and layout due to input from agencies, the public and Aboriginal Communities, corrections to the consultation list and changes to the proposed distribution lines. This was issued to the provincial Aboriginal communities' consultation list.

- As it relates to the federal list of consultation communities, Xeneca sent on July 27, 2012, the letter of June 24, 2010 outlining the Notice of Commencement, the July 8th letter which outlined the available Aboriginal support programs, the September 16, 2010 letter providing an overview of the archaeological studies process, the two October 2010 letters regarding the PIC media advertisements, the Stage 1 Archaeology Report, the December 20, 2010 letter dealing with the Project Description. On September 5, 2012 the electronic copy of the Project Description in CD form, along with a hard copy was distributed to the Federally added communities.

- There has been ongoing email communication, telephone calls, and teleconferences in addition to face to face meetings with Sagamok Anishnawbek, Atikameksheng Anishnawbak, Whitefish River First Nation and Métis Nation of Ontario over the course of the consultation for the proposed Wabageshik Rapids project. Over the course of these interactions with the communities, Non Disclosure Agreements ("NDA"), Memorandum of Understanding ("MOU"), and term sheet agreements (as it relates to Business partnerships) have been presented as an option of moving forward with consultation and dialogue in addition to the Aboriginal Consultation Plan in its draft form.

- It has been identified through the Métis Nation of Ontario that the preferred engagement method of meeting with the various councils will be to engage the council representatives in a regional meeting, which is tentatively scheduled to take place December of 2012.

- On October 30, 2012 a package was sent to both the provincially and federally identified communities which included a CD with the Draft Environmental Report for Wabageshik Rapids to provide the communities with the environmental studies performed surrounding the project. The intention of this package was not only to provide ample time for the Community to review the report, but to provide the information the community requires provide an understanding of the potential impacts the project may have and how this information may affect their specific community. The draft report was provided in electronic form by CD to ease navigation of the larger study reports, and was informed of Xeneca's willingness to provide the hard copy of any of the items as per request by the community. Xeneca has also invited each community to a process to review this information, either through a combination of face-to-face meetings, making our consultants available to review and/or offering community engagement and dialogue meetings. Xeneca also has noted that if capacity is an issue, it is prepared to support communities to ensure that they have a fulsome understanding of the disclosed information. Finally, Xeneca has offered to provide the documentation in whatever format is most convenient to them if the CD version was not adequate.

Details of the community specific communications can be found in the communication logs attached as an Appendix to EA Report.

In respect to the concern of the letter dated May 13, 2011, noting that the Aboriginal community engagement plan would begin formally after the issuance of the Notice of Completion, this was issued in advance of the intention to file Notice of Completion for Wabageshik Rapids. The purpose of this letter recognized at the time, that many of the consultation communities, despite having received ongoing technical information about Xeneca's Wabageshik Rapids project, had not engaged directly with Xeneca, or if there had been engagement, had not developed processes with Xeneca to review the technical information and to provide comments and

concerns that could be identified. Xeneca had decided at that time to shortly issue the Notice of Completion for Wabageshik Rapids and therefore wanted to assure communities that it would continue to address issues raised by communities after this point. We also noted to the communities that there was also (at that time) the ongoing federal Canadian Environmental Assessment Agency (CEAA) review and that the concerns of Aboriginal Communities would have to be addressed through this process. Xeneca was seeking to assure Aboriginal Communities that notwithstanding its desire to complete the provincial environmental assessment process through the Waterpower Class EA, its concerns must still be addressed through the CEAA process. Subsequently, Xeneca did not file Notice of Completion for Wabageshik Rapids in 2011, and therefore continued to provide ongoing and updated information on the project to the Aboriginal consultation communities.

SA showed concern about sturgeon in the Vermilion River. Xeneca sent a copy of the Environmental Baseline Report and the Archaeology, Stage 1 Summary Report on August 21, 2012.

SA also had previously expressed some concern over deer crossing and as a result of that input, this was a contributing factor in Xeneca deciding to move the location of the proposed dam and generating facility further upstream by approximately 300 metres. This led to preparation of an updated Project Description document.

In the October 22, 2012 meeting with Whitefish River First Nation the general concern of conserving the sacred aspects of the water was expressed. The recommendation was put forth for Xeneca to meet with the water keepers to address this concern. Xeneca plans to organize a field trip to the project location with the members of the Whitefish River Community in hopes generating meaningful dialogue to help gain a better understanding of the concerns related to hydropower development.

Wikwemikong Unceded Indian Reserve has showed a positive interest towards the proposed Wabageshik Rapids project with specific interest in the transmission line opportunities with the potential for employment opportunities during construction and operation of the Generating Station.

All consultation documentation will be included in the final ER.

Species at Risk

The potential for species-at-risk (SAR) to be present occurs across several components of this proposal. MNR comments are directed at ensuring proper assessments are made to determine the presence and location of species-at-risk and their habitats, and to advise on the eligibility of *Endangered Species Act* (ESA) authorizations where appropriate. If ESA authorizations are to be issued, then this information will also serve as the basis for assessing the extent and nature of impacts as well as the amount of overall benefit that will be required. Therefore, it is important that these surveys are conducted during optimal seasonal and ambient conditions with the proper methodologies and effort. Findings arising from surveys that do not follow the recommended standards may be considered inconclusive, and result in the need for additional assessments, which could affect project timelines. To avoid this situation, we advise that Xeneca and/or its consultants contact the MNR Sudbury District SAR Biologist prior to any assessments to discuss survey protocols in detail.

MNR recognizes that some work has been completed to address the possibility of Lake Sturgeon being impacted by this development. Based on our current knowledge of Lake Sturgeon in this part of the watershed, it is likely that the Wabageshik Rapids Generating Station will be eligible for ESA authorizations however; MNR still encourages Xeneca to continue with their assessment efforts in order to increase certainty on how Lake Sturgeon and their habitats may be impacted by the facility.

Xeneca's Response:

For the final EA, impacts will be assessed using the existing information and a precautionary approach. Potential habitat exists for Blanding's turtles within the project area but none have been detected to date. Potential impacts on their habitat will be assessed with the assumption that Blanding's turtles are using the habitat within the project area. Additional survey information will be collected to confirm presence of Blandings Turtle in the area.

Lake Sturgeon habitat is also assumed to occur within the project area based on capture by others at the base of Graveyard Rapids in the spring of 2012, and the likely use of Wabageshik Rapids for spawning. Similar to Blanding's turtles, the habitat will be assessed in the EA using a precautionary approach that assumes Lake Sturgeon are using the habitat within the project area. The need for additional surveys for Lake Sturgeon for ESA permit applications is unclear at this stage. Discussions with MNR on permitting requirements will occur over this coming winter including the scoping of any field work to verify presence.

Xeneca recognises that additional information will be required for Blanding's turtle, and possibly Lake Sturgeon, as part of the ESA application and review process for agreements and/or authorizations.

Roads and Transmission Lines

The proposed access roads and transmission lines presented in Section 3.4 and Annex VI provide a preliminary outline for these project components, however, additional detail will be required. The following are the primary aspects considered necessary prior to MNR issuing permits for these activities:

- There is no evidence of any natural heritage assessments for the proposed road and transmission corridors. MNR will require that natural heritage assessments be completed for wildlife habitat and wetland features, including appropriate evaluation and mitigation measures, prior to issuing permits for work on Crown Land.
- There is no evidence that any SAR assessments have been completed for the proposed road and transmission corridors. MNR will require an appropriate level of assessment to determine the presence of species-at-risk, and to delineate habitat use by SAR if they are present. Where required, ESA authorizations will be needed prior to commencing work on both private and Crown lands. It is not necessary to complete all ESA permitting prior to EA completion; however, MNR encourages Xeneca to continue discussions with the MNR SAR Biologist to maximize efficiencies by harmonizing processes, to obtain advice on recommended survey protocols, and to ensure the timely issuance of authorizations.
- There are two options proposed for roads and transmission lines, however, there is no preferred option identified. MNR requires a full assessment of all options be completed where Crown land is subject to disposition. It is suggested that each option be evaluated with rationale as to why it is a preferred option or not a preferred option. MNR also encourages Xeneca to consider options that utilize existing corridors and infrastructure where possible.
- The evaluation of road and transmission options should also include an assessment of impacts to existing Crown land and resource users who could be affected by this proposal, and appropriate mitigation measures where required. In particular, the existing snowmobile trails and snowmobile bridges at the Vermilion River and Brazil Creek are existing uses of Crown land in the vicinity of this proposal, and will require due consideration within the planning process.

Xeneca's Response:

- Xeneca has hired KBM to conduct a natural heritage assessment (including wetland assessment) of proposed road and line corridors. The approach has been vetted through MNR and tweaked as necessary to satisfy MNR's requirements. The approach involves both a coarse-filter analysis of proposed routes by MNR district staff to help identify district-specific values; and a fine-filter analysis that begins with a GIS-based exercise centered on wildlife habitat components that makes use of high resolution aerial imagery. The assessments will be completed with field work in those areas identified to be of high potential for wildlife habitat.
- SAR assessments will be carried out simultaneously with the natural heritage assessments. Xeneca will maintain close contact with district SAR bio throughout the process.
- Throughout the course of planning for this project, Xeneca has considered many different options for both roads and transmission lines. These options have been refined over time to avoid impacts to known values, reduce environmental impact, minimize landscape footprint and fragmentation, reduce total length, dovetail with/make use of existing road corridors and combine (new lines and roads) routes when practical.
- It was necessary to establish these corridors to a high level of planning accuracy based on the known parameters above to allow routes to be made available in project Public Information Centres, to establish PCC, coupling points with HONI (Hydro One Networks) and in a few cases to make B2B arrangements with SFL licence holders and in some cases, patent land holders.
- MNR has agreed to help conduct district-level "coarse" assessments of values, which would include any district-specific values that may not have appeared in prior analyses (through NRVIS, LIO, etc.). This should help to ensure concerns related to potential impacts to existing Crown land and resource users are identified. KBM will use this information to ensure that appropriate mitigation measures are planned (and documented in the EA Report) to avoid potential impacts.
- Field verification work for the preferred routes and lines will be conducted in 2013 to support SAR permitting. This will be done well before construction acidities are to begin.

Terrestrial Biology
In addition to the comments made regarding roads and transmission lines, there are other terrestrial wildlife species and habitats within the proposal that require evaluation. The description of the Terrestrial Environment Characterization study boundary includes the upstream inundation and downstream variable flow reach areas, however, it is not clear if actual wildlife assessments were conducted beyond the desktop values identification exercise. Notably, wetland-dependant wildlife habitats have been omitted as candidate Significant Wild life Habitat (SWH) from Annex III, which suggests that the downstream variable flow reach was likely not fully evaluated or considered during terrestrial studies. Additionally, the identified white-tailed deer travel corridors and crossings need to be acknowledged as SWH and appropriate mitigation strategies need to be established. MNR encourages Xeneca to consider the full range of natural heritage features that could be impacted by the proposal. Proper assessment of effects and mitigation will be required prior to issuing permits for work on Crown Land.

Xeneca's Response:

The final ER will more fully consider the downstream habitats for wildlife values. Based on further analysis, we have identified additional candidate Significant Wildlife Habitats (SWH). In addition, MNR staff have made some helpful points regarding the SWH status of the white-tailed deer travel corridors and crossings, and we have decided to consider them to be confirmed SWH.

Monitoring
MNR suggests that a post-construction monitoring plan be integrated with the proposed development. 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. MNR is willing to participate in further discussions regarding monitoring plans and requirements, as net environmental effects and permitting requirements are further defined.

Xeneca's Response:

An updated post-construction monitoring plan is supplied in the final EA. Any long term monitoring issues will be identified and monitoring program put in place to verify that effects/mitigation measures are effective. Details are given in the final section of the EA.

Conclusion
The ER as presented does not adequately consider MNR's mandate or provide for the requirements associated with MNR's permitting and approvals process. MNR encourages Xeneca to address these comments prior to releasing a final ER to the public and Aboriginal communities. Should Xeneca choose to complete the proponent-led EA process without addressing MNR's comments, additional information and associated review will be required prior to the consideration of permits or approvals. This could result in significant project delays.
MNR's detailed comments are also provided as an attachment to this letter. We trust this review provides a clear outline of MNR's observations and concerns, and we look forward to providing further input as you proceed through the environmental assessment process. Please contact Bob Robinson, Project and Information Management Specialist at (705) 564-7868 or bob.l.robinson@Ontario.ca if you require further clarification.

Xeneca's Response

Xeneca updated EA includes significant data to support permitting in the post-EA period. Much of this base data is included in the EA, in Appendices, or in technical support documents. We feel this information will assist in expediting post EA approvals.

cc. Christine Greenway, MNR, Northeast Region

Ellen Cramm, MOE, Northern Region
Kelly Eggers, DFO

2. Xeneca's Response to MNR Table

ID	Made By:	Comment:	Location (Binder)	Page	Section	Line /Para	Xeneca's Response	Agency Comment
1711	CS	Scope of study needs to include entire Zone of Influence including the variable flow reach below the GS. This area includes wetland areas below GS and those associated with tributaries and embayment below Graveyard Rapids. Waterfowl Nesting Areas Moose Aquatic Feeding Turtle Nesting Amphibian Breeding Marsh Bird Breeding Snapping Turtle Overwintering all need to be reconsidered as candidate SWH.	Annex III	0	Appendix IX	0	The SWH table has been reassessed. The following has since been considered candidate habitat due to the presence of appropriate habitat within the project area: - Waterfowl Nesting Areas - Moose Aquatic Feeding Areas - Turtle Nesting Areas - Marsh Breeding Bird areas - Turtle Overwintering The above candidate SWH will be further discussed in the natural environment report included with the final ER. The following were not revised to candidate SWH as appropriate habitat was not found within 120m of the Vermillion River. - Amphibian Breeding (woodlands) Amphibian Breeding (wetlands)	
1712	CS	Value of Deer Movement Corridor and Crossing need to be evaluated as SWH as per Table Q-4 in Appendix Q of SWH Technical Guide.	Annex III	0	Appendix IX	0	We have identified the deer crossing identified at the base of Wabageshik Rapids as Confirmed SWH. This change has been made to the SWH Table. Further description of the corridors and crossings will be provided inthe natural environment report included with the final ER.	
1478	CS	Surrounding topography and data presented suggest that the Wabageshik Rapids area is likely the most important and safest area from above Wabageshik Lake to below Espanola for deer to cross the Vermillion River. Timing of peek use during early spring and late fall/early winter suggests that this route is being used as an important travel corridor between seasonal habitats (winter yarding areas). Significance of this value needs to be included in report as Significant Wildlife Habitat.	Annex III	64	4.2.5	0	We agree that this area likely has an important role in deer movement. The deer crossing has been confirmed as SWH for Deer Movement Corridor. The operating plan will be further developed to have consideration for potential impacts to deer crossing during the peak times associated with overwintering migration. In addition, the potential impacts on the deer crossing as SWH will be assessed in the final ER. Deer crossings will also be included in the consolidated post-EA monitoring plan provided with the final ER.	
1706	CS	Three deer crossing locations were noted in the report of which 2 are going to be inundated by proposed dam. This will increase the value of the downstream crossing location for deer as SWH.	Annex III	64	4.2.5	0	We acknowledge that the loss of two deer crossings due to inundation will increase the importance and therefore significance of the remaining major downstream crossing identified. Eneca will monitor this site in the post EA period to verify it is being used successfully. See also Major Comments and Response File re: deer crossing.	

1707	CS	Peak deer used was reported between 8 am and 3 pm. Magnitude of planned peaking flows are of concern during this time period. Suggestion that deer could cross during night-time non-peaking hours does not reflect observed useage of this value.	Annex III	64	4.2.5	0	We agree that deer crossings largely occurred during daytime hours and that mitigations to reduce impacts to deer crossings during these sensitive times may be necessary to limit impacts to deer. We are not suggesting that deer would cross at night-time hours as this does not reflect observed usage by the deer. The operating plan will be further developed to describe the proposed operations during the peak crossing times of December/January and March/April. For the final ER, a comparison of proposed flow changes to the natural flow regimes during peak times of use will be used to assess potential negative impacts to the deer crossing. Therefore, monitoring of the deer crossing will be included in the consolidated post EA monitoring program that is being developed for the final ER.	
1708	CS	Lake Sturgeon need to be included in this section as this SAR is at greatest risk from planned operations.	Annex III	68	5.1	0	Additional discussion of Lake Sturgeon will be provided in the natural environment report included with the final ER.	
1709	CS	Snapping turtle habitat and deer corridor need to be included in this section as SWH.	Annex III	74	5.3.2	0	As mentioned above, the wetland habitats have been reassessed with regards to the SWH criterion. Confirmed SWH habitat for snapping turtle and deer corridors will be included in the discussions of SWH.	
1713	CS	Deer Movement Corridor and Crossing need to be included in precautionary approach being taken to identification of SWH.	Annex III	77	6.1.1	0	We are accepting the advice of MNR staff and are taking the precautionary approach in identifying SWH for Deer Movement Corridor and Crossings. The existing primary use of the downstream crossing location, along with the proposed loss of the upper two crossings due to inundation, makes it clear that the downstream crossing is SWH.	
1715	CS	Should be noted that flow changes resulting from dam structure have potential to impact deer crossing even if it is expected that dam footprint itself may not.	Annex III	80	6.2.1	0	For the final ER, the operating plan will be further developed and include consideration for the deer crossing. The impact assessment will speak to the operations, and a monitoring plan will be developed for the deer crossing.	
1717	CS	This section acknoweleges that bay below proposed GS and tributaries as Candidate SWH for Turtle Overwintering but this is not carried through to Appendix IX tables. Note SWH Tech Guide only requires 1 overwintering snapping turtle to qualify as SWH.	Annex III	90	6.5.1	0	The observation of one snapping turtle made by NRSI biologists has resulted in the identification of SWH for Turtle overwintering. This identification will be discussed in the natural environment report for the final ER and carried forward into the appended SWH tables.	
1719	CS	This section needs to reflect input provided regarding SWH and Deer Corridor and Crossing.	Annex III	119	7	0	The summary will be updated for the final ER to reflect the identification of confirmed SWH for Deer Corridor and Crossings.	
1444	CS	References to nearest deer yards need to state 'nearest known deer yards' as this area has not been surveyed entirely for presence of deer yards and existing information is quite dated.	Annex III	63-64	4.2.5	0	We have taken this into consideration and have included this in our precautionary approach to identifying SWH for Deer Movement Corridors. We will make the required changes to the natural environment report for the final ER.	

1716	CS	December / January and March / April operations need to address requirements for deer crossing. The proposed variation and range of flows may need to be moderated to address this ecological function.	Annex III	88 - 89	6.5.1	0	For the final ER, the operating plan will be further developed and include consideration for the deer crossing. The impact assessment will speak to the operations, and a monitoring plan will be developed for the deer crossing.	
1720	CS	Needs to be updated to reflect that there are areas of SWH involved within the Zone of Influence.	ER	0	Executive Summary	0	Acknowledged, text will be reviewed and revised for final as necessary/possible based on further discussions with regulators through the draft review.	
1722	CS	Deer crossing and corridor discussion should identify these values as SWH.	ER	19	2.9.2	0	Acknowledged, text will be reviewed and revised for final as necessary/possible based on further discussions with regulators through the draft review.	
1723	CS	Need to include deer crossing and corridor as well as all wetland associated habitat functions as Candidate SWH as per input provided for Annex III Appendix IX comments. Confirmation of these candidate SWH values also needs to be reported in this section.	ER	22	2.9.7	0	Acknowledged, text will be reviewed and revised for final as necessary/possible based on further discussions with regulators through the draft review.	
1726	CS	Species at Risk section of Table 5 needs to include Lake Sturgeon concerns.	ER	90	5.1	0	Acknowledged, text will be reviewed and revised for final as necessary/possible based on further discussions with regulators through the draft review.	
1727	CS	Terrestrial Wildlife section of Table 5 needs to include Deer Migration Corridor under Operational Effects on Significant Wildlife Habitats.	ER	92	5.1	0	Acknowledged, text will be reviewed and revised for final as necessary/possible based on further discussions with regulators through the draft review.	
1724	CS	Need to include potential longer term impacts to deer crossing and corridor associated with peaking operations not just short term impacts associated with construction activities.	ER	108	5.1.5	0	Acknowledged, text will be reviewed and revised for final as necessary/possible based on further discussions with regulators through the draft review.	
1725	CS	Terrestrial Wildlife section of Table 6 needs to include deer crossing and corridor as SWH. This value should be considered Significant given topography of area and current useage reported in studies.	ER	121	6	0	Acknowledged, text will be reviewed and revised for final as necessary/possible based on further discussions with regulators through the draft review.	
1728	CS	Natural Vegetation and Habitat Linkage section of Table 6 classifies impacts of ongoing operations on deer crossing as not significant. This needs to be reconsidered given proposed extent of water level and flow fluctuation in Proposed Operation Plan.	ER	121	6	0	Acknowledged, text will be reviewed and revised for final as necessary/possible based on further discussions with regulators through the draft review.	
1593	DS	Correspondence logo with Whitefish Lake FN: no other way to reference: Letter April 15 2011 from White fish Lake lawyer to MNR copied to Xeneca: stated that First Nation position was that no consultation had occurred to date.... requested info on MNR assessment of potential duty of consult. Made clear assertion that the project would have an adverse impact on the asserted and established Treaty rights of the community-- however no further statement of specific infringement; nor evidence that Xeneca then informed MOE director of EAAB was informed of this as required in Class EA Section 7.3 page 68-69	Appendix E	0	0	0	Xeneca did not report the infringement to the MOE Director of EAAB at the receipt of the letter from Whitefish Lake First Nation instead Xeneca offered to meet with the Chief Miller and two Council members of Whitefish Lake First Nation on the 19 September 2011 to gain a better understanding of the First Nation's concerns with the project and attempt to address the issues and concerns. Whitefish Lake FN Chief and Councillors had a good discussion about the project and Xeneca shared its generic MOU and Non Disclosure Agreement with the representatives. Xeneca also had concerns that no specific infringement had been identified by Whitefish Lake FN. Consequently, Xeneca is of the view that there was no obligation	

							to inform the MOE Director of the EAAB as required under the Class EA. Section 7.3 if and unless an infringement is identified to Xeneca.. Xeneca also had information that Whitefish Lake FN's counsel was acting without authority from the Band Council and subsequently, we sought clarification as to whether he had authority to discuss matters on behalf of the community. Subsequently to our response, we did not get a further response from Whitefish Lake FN's counsel.	
1541	DS	ER section 4.5 Aboriginal Engagement does not follow the format stated by Xeneca in Appendix E Aboriginal Consultation Plan. section 2.6 page 13 and 14 This greatly complicates ability to evaluate effort towards the Crowns Duty to Consult...negatively affects ability to determine whether or not adequate effort or if more effort is required.	ER	79	4.5	0	Xeneca will make the modification to include the table (format) as outlined in the ACP and insert the section in the body of the EA Report and will incorporate a summary at the beginning to provide a clearer understanding of how the Crown has met it Duty to Consult. The Appendix will provide the detailed information on the actual engagement.	
1589	DS	Class EA requires the ER to provide specific documentation / Class EA section 4.4.1 ER: There is extensive logging of emails and letter from Xeneca to various Aboriginal communities. However there no summary of community concerns/ issues and how Xeneca may have attempted to address them-- nor a statement that there were no actual concerns raised.	ER	79	4.5	1	A summary section will be added to the revised Section 4.5.	
1592	DS	Class EA requires ER to document changes to original proposal (project description) resulting from evaluation or consultation. It seems that the Project Description was sent out around Dec 2010 to Feb 2011. However on Feb 8th (pg 68) EA scope was expanded to include connection line-- it is not clear if revised Project Description wish would form the basis for an initial impact assess by an Aboriginal community was then circulated. If it was not then it would be difficult to conclude that Aboriginal communities had all info necessary to understand the project.	ER	79	4.5	0	Xeneca sent out a correspondence on Decemher 13. 2011 identifying the two new distribution line options. The MNR Sudbury District and MOE Region were advised of this mailing.	
1587	DS	Class EA requires that Notice of Commencement be mailed to all Aboriginal communities listed. page 81 refers to July 8 2010 letter to 2 First Nations informing them that Xeneca was preparing the N of Commencement-- Not able to determine if Xeneca actually sent Notices of Commencement to all listing Aboriginal communities.	ER	81	0	1	On May 13. 2011, Xeneca distributed all versions of the Notice of Commencement (July/August 2010 & October/November 2010) to the communities on the list as May 2011. These Notice of Commencement copies were distributed within a correspondence package to the following Communities: Atikameksheng Anishnawbek (Whitefish Lake First Nation), Sagamok Anishnawbek First Nation, Whitefish River First Nation, Wikwemikong Unceded Indian Reserve & Métis Nation of Ontario (whom at this date was distributing the correspondence to the appropriate councils – Sudbury Métis Council & North Channel Métis Council)	

1584	DS	Aboriginal Consultation Plan (ACP) sent out May 13 2011-- consultation to begin formally after Notice of Completion for a 30 day period. ACP is commonly understood to be necessary at beginning of process- on or before Notice of Commencement not Notice of Completion... ACP developed unilaterally by Proponent with no mention of Aboriginal community influence of its development... difficult to understand the delay to such a late date.	ER	82	0	6	The Aboriginal Consultation Plan issued by Xeneca is not a document formally required under the Waterpower Class EA. It was prepared for the purpose of providing Aboriginal Communities assurances that Xeneca would work with communities and provide every opportunity for input and comment. Xeneca acknowledges that in an ideal world, it is possible to prepare an Aboriginal Consultation Plan with the input of all of the consultation communities. In practical terms, this is unlikely, and Xeneca developed this draft Aboriginal Consultation Plan with the intent to seek input from each community.	
1586	DS	May 18 2011 first meeting with Metis Nation of Ontario. provided project description...continuing work to develop formal agreement Aboriginal consultation plan circulated to MNO Aug 18 2011. ' Not clear status of issues or duty related to Metis communities	ER	83	0	1	Xeneca is working with the MNO, Lands & Resources Committee to establish a timeframe for a meeting with the local Sudbury and North Channell Metis communities to ascertain any impacts on constitutionally protected rights as it relates to the proposed impacts by the Wabageshik project. We are working with the MNO Consultation Assessment Coordinator to set meetings with the new executives of the Sudbury and North Channel Metis Councils – likely to take place in December 2012 or early 2013.	
1582	DS	several reference to Lake Sturgeon and potential negative impact on them. (HADD) with more knowledge after engineering details during permitting phase-- however a SAR Water Management Plan exemption permit will be required as some point-- this permit will require additional Aboriginal Consultation be conducted at that time. also see page 67-69 of ER (pg 69 MOE: all impacts must be identified in ER otherwise addendum EA document needed before permits issued)	ER	141	0	0	Xeneca acknowledges that once engineering details are known about proposed operations, that we will be required to consult with Aboriginal Communities in determining any concerns prior to the issuance of a SAR Water Management Plan exemption permit.	
1391	EC	Another potential adverse impact can be the siltation of fish habitat located downstream of the project.	CMP	7	1.2	5	This potential impact is covered by the bullets under 1.2 (reduced water quality, increased erosion and sedimentation, disturbance of fish spawning all mentioned).	
1392	EC	Timeline for start of construction needs to be adjusted.	CMP	33	1.5	3	Construction schedule in CMP will be updated.	
1363	EC	Throughout the Environmental Report and associated documents information referencing the location of threatened and endangered species at risk should be kept general. For example Lake sturgeon should only be acknowledged as being in the Vermillion and Spanish Rivers. Information such as UTM coordinates lats & longs identifiable or known features or distances from known or identifiable features etc. should be removed from publicly accessible documents and provided to the appropriate agency as a separate report.	ER	0	0	0	Acknowledged, text will be reviewed and revised for final as necessary.	

1362	EC	Inconsistent use of formatting (i.e. capitalization) to display species names throughout the document.	ER	0	0	0	Acknowledged, text will be reviewed and revised for final as necessary.	
1364	EC	Consultation with MNR also indicated that high potential for Eastern Whip-por-will and Chimney Swift to be present in the project area specifically in locations where access roads and transmission lines will be built. This is not reflected in document. These two species should be added to the list. Also Eastern Meadowlark is a recent species added under O. Reg 242/08 (SARO List) which shares similar habitats as Bobolink which is a species acknowledged in the ER. May wish to add.	ER	17	2.9	0	Acknowledged, text will be reviewed and revised for final ER as necessary. These are discussed with MNR during the ER review process. The ER will be updated. See also 1366.	
1366	EC	The study area is defined as the predicted zone of influence of the facility plus 120 m from the shoreline; yet the project area also includes access roads and transmission lines. This makes an assessment of the information contained in the rest of section 2.9 confusing and may explain why a couple of species at risk that should have been listed. Eastern Whip-poor-will and Chimney Swift may not be expected to be found at the waterpower site but they are more likely to be discovered in areas where the access roads and transmission lines are going to be built.	ER	17	2.9.1	6	Xeneca is working with KBM to fine tune the approach to proposed roads and transmission lines to ensure that natural heritage features, including significant wildlife habitat and SAR, are adequately addressed. KBM has been working with MNR districts to identify preliminary species lists (including SAR) upon which a GIS-based analysis will be conducted that will ultimately help to identify priority areas for field verification.	
1365	EC	As per Comment #1364 Eastern Whip-poor-will and Chimney Swift should be added to this list. The addition of Eastern Meadowlark is suggested as well.	ER	22	2.9.6	2	Dave/Karen : add reply to the table	
1367	EC	I did not see a report summarizing the analysis examining turbine type and efficiency curves operating regime and economics. If this information is already available in the ER package or in a previous report please identify where it could be found. If it isn't the information should be required to rationalize the preferred option.	ER	41	3.3.5	1	Typical turbine efficiency curves for Kaplan units are included as an attachment to this document. In all cases, one can assume minimum turbine operation at 20% of turbine design flow (maximum flow). Manufacturers however usually do not guarantee efficiencies below 30% of design flow. From the typical curves offered, one can see a significant drop off of efficiency as one move below 50% output level from 90% down to 75% efficiency for the turbine. It should also be noted that the turbine efficiency represents only one loss/efficiency associated with power generation. The additional losses include the following; i) Intake hydraulic loss – loss due to flowing water in penstocks, inlets and canals above the turbine (3 to 5%) efficiency loss ii) Some turbines use gearboxes to allow the use of a smaller faster generator. These gear boxes typically add a consistent (2-3%) efficiency loss iii) Tailwater effect – water elevation loss at the tailwater, increases with combined river plus turbine flows – (0 - 5%) iv) Compensatory flow – un-turbined spilled water flowing over the weir or 'leaked' through the turbine to maintain downstream flow levels while the turbine is not operating – (? %)	

							v) Environmental flow – un-turbined flows associated with water spilled over a weir to ensure bypass reach maintains a minimum seasonal flow – (? %) vi) Generator loss – conductor loss & energization loss, increase with energy output and generator bearing and windage losses, constant losses – (5%) vii) Step up transformer losses – copper and core losses, no load (energization loss) and load losses, increase with energy output – (2-3%) viii) Line losses – increase with energy output, ambient temperature and distance – (1.5 - 2.5%) Total losses from all non-turbine losses can add an additional 12 – 18% (to 24%) over the operating range, pushing Overall Average Plant Outputs down to between 75% & 80% depending largely on the capacity to operate as modified run-of-river plants and keep turbine flows well above 50% design flow.	
1372	EC	Provide rationale for why Distribution Route Option # 1 and Road Option # 2 are not paired all the way to the generating station. Pairing them would reduce the footprint and potentially the need for additional surveys and other authorizations.	ER	44	3.4.3	2	Xeneca's preference for access road construction is to run a north-south road east of Nameless and Elizabeth Lakes from the Penage Lake Road to the GS. Initially this route was also preferred for the line connection as our connection point was south and west of the project site. However, the connection point has now been moved due west of the project. The result is a need to run the line west from the GS site, eliminating and possibility for coaxial routing. This west route is unsuitable for roads but is very suitable for line routing. As noted elsewhere, Xeneca will produce a discussion in the EA regarding the selection criteria and analysis of these and other possible routes.	
1371	EC	Aerial photographs suggest that Road Option # 2 and Distribution Route # 1 may have less Whip-poor-will habitat present but there may be a greater risk of encountering Blanding's turtle due to the presence of a large wetland in the area. Blanding's turtle will have habitat protection June 30 2013 so any changes to water levels and quality and/or to the physical habitat could result in the need for an overall benefit permit. New road may also pose additional mortality risks to turtles caused by traffic and/or maintenance activities.	ER	44	3.4.3	2	This consideration will be factored into the selection of a preferred route. Also, KBM and Northern Bio-sciences are doing a wetland assessment RAT to inform the selection of preferred routes. The final EA report will address this comment.	
1370	EC	If protected species at risk and/or habitat are present then timing restrictions may be required for the construction and installation of access roads and transmission lines (i..e no construction during the active season - generally May 1 to September 30 depending on the species present).	ER	44	3.4.3	2	Will make mention of timing restrictions for affected roads and powerlines in the final EA report and ensure they are addressed in any circumstance where SAR and their habitats are identified.	
1369	EC	While transmission lines may not result in the damage or destruction of ESA habitat access roads might. An ESA overall benefit permit may be required for species that have habitat protection (e.g. Eastern Whip-poor-will). One requirement of the permit is to demonstrate that no other	ER	44	3.4.3	2	Xeneca has worked with MNR SAR bio to ensure that any potential impacts to SAR from roads will be incorporated in development of the preferred route. Further, confirmation of the final route will occur upon completion of SAR field work in support of SAR permitting. This will be addressed in the final R&L Report.	

		feasible options were available.						
1368	EC	Aerial photos indicate that suitable Eastern Whip-poor-will habitat may be present along Road Option #1 and Alternate Distribution Route # 2. Whip-poor-will has general habitat protection.	ER	44	3.4.3	2	Xeneca will work with district SAR bio to ensure that required studies and permitting give full consideration to this issue.	
1397	EC	Construction schedule indicates that road construction will start January 2014. Once species at risk surveys are completed next spring there will be approximately 6 months to prepare and issue an ESA permit if needed.	ER	45	3.5	2	Noted, this work will be planned and initiated in the spring of 2013 with SAR permit applications to follow immediately.	
1373	EC	First row on impacts to Species at Risk doesn't identify the species at risk. Lake sturgeon should be identified as the species potentially being affected.	ER	90	Table 5	2	Acknowledged, this line item in Table 5 of the ER was too general. The final ER will review effects in this table on a taxon-specific basis. Any associated text will also be reviewed and revised accordingly.	
1374	EC	Clarify statement 'effect on species and their habitat on a regional level is ...negligible'. What geographic scale is being referenced?	ER	90	Table 5	2	Acknowledge that this statement is ambiguous and also too general as per the discussion above re: comment 1373. For the final ER, any discussion of geographic scale will be taxon-specific and will take into account the reasons for their at-risk status.	
1375	EC	The habitat at the proposed waterpower site has the potential to be the best spawning habitat available to the sub-population of Lake Sturgeon currently residing in the Spanish-Vermillion river system. The potential impact should not understated and will be a consideration in achieving overall benefit for the species.	ER	90	Table 5	2	For the final ER, significant residual impacts on fish habitat will be acknowledged in order to rectify the potential for understating the impacts. A preliminary fish habitat compensation plan that includes consideration of Lake Sturgeon will also be provided with the final ER. We anticipate further discussions with MNR and DFO regarding refinement of the fish habitat compensation plan and overall benefit for Lake Sturgeon under an ESA 17(2)(c) authorization (if required).	
1376	EC	The ability for Lake Sturgeon to access Wabagehsik Lake has not been conclusively dismissed. Although the Natural Environment Characterization Report stated that it is unlikely for sturgeon to pass through the upper reaches of Wabageshik Rapids the report acknowledges that it is possible under the right conditions. Suitable spawning conditions at Lorne Falls for sturgeon may exist. The ER needs to acknowledge the possibility of affecting movement and propose how to deal with it.	ER	90	Table 5	2	Acknowledged. We wish to have further discussions with MNR regarding Lake Sturgeon occurrence information, the degree of risk of affecting movement of Lake Sturgeon, and the need to address such effects in the final ER should they occur..	
1378	EC	Potential impacts to species at risk resulting from the construction of access roads and power lines are not identified. Both Whip-poor-will and Blanding's turtles could be negatively affected by the proposed activities.	ER	90	Table 5	0	SAR impacts associated with proposed roads are addressed by Xeneca in consultation with the district SAR bio and permitting activities in 2013 are in accordance with these discussions.	

1377	EC	More information required on how the compliance range of 30 cm (+/- 15 cm) will affect water depth in Tributary B. What is the expected range during the over-wintering season (i.e. Oct 1 - April 30)? For example if turtle is over-wintering in 20 cm of water and it drops 15 cm the remaining depth may not be sufficient for turtle to survive.	ER	90	Table 5	3	The operating plan will be further developed and refined for the ER, and will include consideration for turtle overwintering habitat with emphasis on Blanding's turtle. The impact assessment in the final ER will focus on the Blanding's turtle habitat. The proposed changes in water levels in Tributary B will be compared to the known habitat use and behaviour of Blanding's turtles in order to discern potential for impact during overwintering.	
1379	EC	For Lake Sturgeon compensatory habitat alone will not be sufficient to meet overall benefit if an ESA 17(2)(c) permit is issued. The creation of additional habitat and/or some other recovery actions may be required.	ER	106	5.1.3	5	Overall benefits for an ESA 17(2) (c) permit for Lake Sturgeon needs be considered post EA. . We have noted your indication that additional recovery actions beyond the construction of compensatory spawning habitat may be required.	
1380	EC	A description of how will minimum flow requirements be maintained during unscheduled / emergency shut downs.	ER	116	5.3	2	Minimum flow requirements will be maintained at all times, including during emergency shut downs. Two possible engineering solutions exist to provide this protection. The first involves the installation of a powerhouse bypass valve. The second option involves a special turbine-generator package that allows flow through the turbine to be maintained even during emergency shut-down. Which of these engineering solutions is deployed will be determined during the detailed engineering design process. No matter which of the two solutions is chosen, the minimum flow requirements will be met even during emergency shut-down.	
1381	EC	Magnitude of effect is ranked "Low' even though the geographic extent is 1 - 10 km and the likelihood of impact is high. The severity of the potential impact to Lake Sturgeon may be understated. It is also premature to state no significance to the residual effect when no proposal to address lake Sturgeon concerns has been submitted reviewed and confirmed by MNR/ DFO.	ER	120	Table 6	4	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible based on further discussions with regulators through the draft review	
1382	EC	Some of the access roads will have continuous use so there will be a residual effect. Also the summary of this activity assessment is missing details.	ER	120	Table 6	10	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible based on further discussions with regulators through the draft review.	
1383	EC	Inundation resulting in the permanent loss of fish habitat for specific species is a residual effect.	ER	122	Table 6	7	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible based on further discussions with regulators through the draft review.	
1384	EC	Another section of ER or other document acknowledges that Northern Pike may be negatively affected but it is stated as no residual effect in this table.	ER	122	Table 6	8	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible based on further discussions with regulators through the draft review.	

1385	EC	The ability for Lake Sturgeon to access Wabagehsik Lake has not been conclusively decided. Although the Natural Environment Characterization Report stated that it was unlikely for sturgeon to pass through the upper reaches of Wabageshik Rapids the report does acknowledge that it is physically possible under the right conditions. Suitable spawning conditions at Lorne Falls for sturgeon may exist. With a possible anecdotal report of historic catches of Lake Sturgeon in Wabageshik Lake additional work assessment and/or habitat suitability work may be warranted. The ER should acknowledge the possibility that the facility may affect connectivity and propose how options of how to deal with it.	ER	123	Table 6	6	Acknowledged. During the EA review period, we will have further discussions with MNR regarding Lake Sturgeon occurrence information, the degree of risk of affecting movement of Lake Sturgeon, and the need to develop a post EA monitoring program.	
1387	EC	There are other facilities that may affect the fish populations in the Vermillion / Spanish River section including the Big Eddy GS and Nairn Falls GS. Both are located on the Spanish River upstream of the confluence with the Vermillion River.	ER	129	7.1	4	We acknowledge that there are other facilities on the system as you have indicated. The proposed project is located among 3 other facilities and bound upstream and downstream by these facilities. All 3 of the existing facilities have been in existence for many decades. To the extent that the facilities have impacted fish populations, the fish populations observed as part of the baseline work were deemed to be the existing conditions.	
1388	EC	MNR and DFO have not reviewed any proposal describing how the lost fish habitat will be compensated and if it will be feasible. Overall benefit may be still required for Lake Sturgeon which could involve the additional creation of habitat.	ER	131	7.2	5	The final ER will acknowledge a significant residual impact on fish habitat, and indicate Xeneca's intention to construction compensatory fish habitat. A preliminary fish habitat compensation plan will also be included with the final ER.	
1389	EC	Post-construction monitoring of fish response to operations and the success of mitigation / compensatory measures re: fish habitat will be a requirement.	ER	133	8.2	2	Clarification will be provided in final report. Xeneca is preparing a consolidated monitoring plan including for compensation which will be included in final report.	
1390	EC	Post-construction monitoring of fish response to operations and the success of mitigation / compensatory measures re: fish habitat should be a commitment.	ER	139	10	6	Clarification will be provided in final report. Xeneca is preparing a consolidated monitoring plan including compensatory measures which will be included in final report.	
1386	EC	Assessment of impacts and their significance is incomplete for the Fish Habitat Fish Migration and Fisheries section. Details are required in order to review and comment on.	ER	122-123	Table 6	0	The final ER will acknowledge a significant residual impact on these components of fisheries and fish habitat. It will also indicate Xeneca's intention to construction compensatory fish habitat, and a preliminary fish habitat compensation plan will be included with the final ER.	
1409	EC	Table 2 - Potential bird species identified from OBBA 2006. This is based on the second survey of which some species identified in the first survey were not found. This may not be due to a decline or absence of the species but in some cases can be attributed to less effort resulting in fewer species identified.	Natural Environment Report	8	2.2.3	2	We acknowledge that the absence of observational data in the second atlas may be due to less effort and therefore will include the results from the first atlas as well. Information from the first atlas will be added to the bird species list appended to the natural environment report for the final ER, and any additional species will be addressed as required within the final ER reports.	

1411	EC	Because Blanding's turtle do not burrow into the mud and may actually show lateral movement during the winter they may be able to relocate to deeper sections providing they do not become trapped in a depression. Detailed measurements of elevation in the tributaries and the effect of dropping water levels in the pool would further assess the potential for negative impacts to turtles.	Natural Environment Report	91	6.5.1	4	The operating plan will be further developed and refined for the ER, and will include consideration for turtle overwintering habitat with emphasis on Blanding's turtle. The impact assessment in the final ER will focus on the Blanding's turtle habitat. The proposed changes in water levels in Tributary B will be compared to the known habitat use and behaviour of Blanding's turtles in order to discern potential for impact during overwintering.	
1410	EC	Blanding's turtles do not burrow into the mud during the winter and prefer firm bottoms substrates to softer substrates.	Natural Environment Report	91	6.5.1	2	We have noted that Blanding's turtles generally do not burrow into the mud and rather can be found overwintering on pond bottoms, undercut banks or even suspended in the water (The Blanding's Turtle Recovery Team 2002). As well, they are known to move small distances (a few metres) in the winter months allowing them to potentially escape undesirable locations (COSEWIC 2005).	
1412	EC	If Blanding's turtles are present and it is shown that the operating regime will have a negative impact on the species then an 17(2)(c) overall benefit permit may be needed. MNR has survey protocols for Blanding's turtles outlining required effort. The use of hoop net traps or other handling of Blanding's turtles would require a 17(2)(b) permit.	Natural Environment Report	92	6.5.1	2	We acknowledge that additional information on Blanding's turtle occurrence will be required for ESA review purposes, and that the studies must follow certain protocols and be carried out uner ESA 17(2) (b)permit. We also acknowledge that the project itself may require a permit under ESA 17(2) (c).	
1413	EC	There is a recent anecdotal report of historic catches of Lake Sturgeon in Wabageshik Lake. While this report has not been verified the assessment also acknowledges that it is possible for movement into the lake up from Wabageshik Rapids.	Natural Environment Report	105	6.7	2	We acknowledge that you have acquired additional anecdotal information on Lake Sturgeon since the draft ER was written. We would like to receive further details of this information and discuss them with you.	
1405	EC	Table 6 line 5 - More details regarding the min/max elevations and what is the daily average. Is it an annual average or does it change seasonally / monthly?	Operating Plan	28	7.2	5	Xeneca has firmly committed to follow natural lake levels upstream at all times, subject only to a daily operating range of +/- 5 centimeters of what is "normal" for any given inflow rate. Using field measurements we have clearly established the relationship of lake levels and natural inflow rate. The measurements indicate that any given inflow rate results in a very predictable lake level. Xeneca firmly commits to discharge the daily inflow and to maintain the associated natural lake level unless directed otherwise by a regulatory authority.	
1404	EC	Minimum compensatory flow has not yet been agreed upon. The proposed Qcomp flows in Table 5 are likely insufficient to address all aquatic ecosystem needs.	Operating Plan	28	7.2	3	When the agency draft version of the EA was issued, a minimum compensatory flow had not been agreed upon. Xeneca has been working with agencies to achieve consensus on this flow value. The final number will be included in the EA before it is released to the public.	
1401	EC	What range of night-time velocities are being proposed to aid larval drift?	Operating Plan	41	Appendix 2	5	The velocity value will depend on the minimum nighttime flow agreed to with the agencies. Detailed hydraulic modeling has been carried out for the downstream river section for a wide variety of flows. As soon as a minimum flow value has been agreed to (5 cms seems accepted, TBC), the velocity can be looked up in the hydraulic modeling tables. It should be noted that natural velocities vary widely in the area of interest. The river widens into a lake-like feature immediately downstream of the proposed facility and natural velocity diminishes greatly as the river enters this area. The proposed reduction of flow will enhance this effect, but within a range of	

							velocities that already occur in the area naturally.	
1398	EC	True run-of-river operations are proposed during Lake Sturgeon spawning is good and using temperature-based approach is appropriate. However no fluctuations in water depth should occur during the incubation period due to risk of exposure. Sturgeon may cast eggs in as little as 10 cm of water; the 20 cm range proposed would dewater incubating eggs at this depth.	Operating Plan	41	Appendix 2	0	This comment is being acknowledged. Xeneca will review the agency draft of the Operating Plan and ensure that an appropriate flow commitment is made in the table entitle "Special Spawning Operating Restrictions - Sturgeon" in Appendix 2.	
1400	EC	Updated modeling required demonstrate that Lake Sturgeon spawning / incubation / pre-dispersal habitats will not be exposed with the proposed change in depth.	Operating Plan	41	Appendix 2	3	The information requested has been provided to the agencies since the agency draft EA was sent out. Xeneca is still working with the agencies to review this information. Xeneca supports the objective of not exposing habitat during spawning and incubation.	
1393	EC	NHIC is not the only source of species at risk information.	Potential Effects Identificati on Matrix	2	1	4	Potential effects identification matrix is a preliminary screening tool. A description of the literature review and assessment work completed for SAR as part of the project is described in Annex III	
1394	EC	Lake sturgeon has been confirmed to be within the study area.	Potential Effects Identificati on Matrix	2	1	4	Potential effects identification matrix is a preliminary screening tool. A description of the literature review and assessment work completed for SAR as part of the project is described in Annex III	
1395	EC	More details regarding field investigations planned in Fall 2012 around verification of ESA habitat. Fall is not an optimal time for most SAR surveys. MNR may have draft survey protocols specifying preferred methodology effort and ambient conditions. For some species an ESA permit may be required if the survey harms or harassess the species.	Power Lines and Roads	4	0	0	Xeneca to work with district SAR bio to ensure appropriate SAR surveys are carried out and concerns are addressed, including permitting if required.	
1435	KH	Number 9 doesn't show private property in Lot 6 Con 6 Foster Twp	Annex 1	9	0	0	Feature #9 is found on Map 3 and is a fast water feature downstream of the site. There are two private property features in Map 1 that are immediately east of Feature #4 (private property). These two private properties will be added in a subsequent revision. It should be noted that neither property has riparian rights as neither abuts the shoreline to Wabageshik River and are not affected by the proposed operations.	
1399	KH	They mentioned roads and Hydro lines entirely on Crown land yet one of their alternative routes along the road to Elizabeth lake is on private land	Annex II	0	0	0	The 'existing' road north of Elizabeth Lake is largely a snowmobile trail which crosses two patent land plots, two river crossings and wetlands with no reasonable alternative routings possible to skirt around these properties or values. Xeneca has no right to cross private land. The proposed line routing across these private lands are currently subject of negotiation with private land holders who are amenable to compensation for such minimal installations crossing the private land. Further we will ensure text and maps are consistent throughout the document.	

1438	KH	requires full evaluation of both options for hydro and rd corridors. Why is the Hydro corridor branching off from Elizabeth Lake road instead of following existing rd corridor. Need to have all options in EA	Annex VI	0	0	0	Xeneca will present road development considerations in the final EA support documents with route evaluations leading to selection of the preferred route.	
1437	KH	If there is a primary road up to the Vermillion Snowmobile bridge how do we keep trucks and other vehicles from using the bridge that is rated 5 Tons. Right now these vehicles do not have access to the bridge?	Annex VI	7	0	0	The planned access road runs across the snowmobile trail at one point only (at 90 degrees) just north and east of Nameless Lake. The planned access road runs to the planned generation site and weir and does not access the area near the snowmobile bridge at all.	
1436	KH	Again talks about the crossing of the vermillion River. Access from Panache lake rd would not use the Vermillion River bridge but the Brazil creek bridge. Wording need to be cleaned up	Annex VI	7	0	0	There is no plan to either cross the Vermilion River or the Brazil Creek bridge with an access road. The powerline however would skirt the wetland area near the Brazil creek bridge and also cross the creek at a point close to the bridge.	
1402	KH	They mention the only existing access is the snowmobile trail across patent land that crosses the vermillion river bridge. This is misleading as they do not plan on crossing the vermillion river snowmobile bridge but they are planning on coming up from the south along the trail and crossing the Brazil Creek bridge.	ER	24	2.11.2	0	See response above.	
1403	KH	Under ATV. Project will increase ATV access if new roads/corridors are opened up	ER	27	0	0	Noted.	
1406	KH	Moose tag participation rate seems to be wrong in WMU 39 and 42. Need to clean up wording	ER	30	6.11.6	0	Noted. The source of the participation rate is the North Shore Forest Management Plan. Xeneca will verify the information and make amends where necessary.	
1407	KH	Sturgeon were found in 2012 but it is not mentioned should be updated	ER	31	Fishing-Angling	0	Noted. Will mention this in the final ER	
1408	KH	Existing 7 km gravel private rd from Hwy 6 to downstream of the rapids. Not sure were this is it maybe the road from hwy 17 before the Spanish river bridge. Need to clarify	ER	38	0	2	This is the snowmobile route trail running south from the site, linking to Hwy 6 (through the Penage Lake Road). It is not the trail from Hwy 17.	
1414	KH	Line option 1. Why does it not follow the entire snowmobile trail to Vermillion River instead of a new corridor for over 3 km. That is our preferred option instead of creating a new corridor and should show this as an option for the EA.	ER	43	0	2	Rerouting line option 1, as suggested, would add 1 km to total line length plus it would cross an important wetland feature. The trail is overgrown and provides potential habitat for Blanding turtle.	
1416	KH	Under Access roads need to clarify options and provide more details. Again they mention the Vermillion Snowmobile bridge but I thought they were not using it. Also MNR's preferred option is for them to work with the private land owners and use existing corridor etc instead of creating new access.	ER	44	3.4.3	0	Xeneca will update the R & L report. The landowner owner has been approached and he is not interested in a road or line on his land. The trail is not usable and infrastructure (bridge) is not present at Brazil creek. Moreover, it crosses 2 wetlands. As noted earlier, the Vermilion River snowmobile bridge cannot be used; it does not have capacity for vehicles. We will not make use of the bridge.	
1417	KH	All temporary bridges will require approval under the PLA or LRIA	ER	45	0	0	Noted.	
1418	KH	First bullet point. A work permit for the transmission lines and roads have not been completed by Xeneca.	ER	68	0	0	Work permit applications will be submitted following the completion of the EA and site release to initiate permitting and approvals discussions with MNR.	

1419	KH	Key permitting requirements should include discussions on requirements under the Public Lands Act.	ER	68	0	0	Acknowledged, formatting will be reviewed and revised for final as necessary/possible	
1420	KH	What is the result of efforts to have the claim holder release surface rights?	ER	71	0	0	This would be assessed for mining permits and approvals.	
1421	KH	Under Surface water they have borrow sites for aggregates will be minimum 30 m from lake river etc yet in their drawings they have one north of Vermillion within the 30 m	ER	88	Table 5	1	This will be the most economical and likely best source of local aggregate. Extents are concept only. No additional information available to better define extents.	
1423	KH	Under Power line construction they mention ground truthing will be done in 2013 this should be done prior to final approval of the EA	ER	91	Table 5	0	Xeneca is developing preferred line routes made after considerable efforts in data collection and analysis. The final preferred route will be ground-thuthed before construction	
1425	KH	Access restrictions should be considered carefully, in consultation with MNR, as they can have several implications, including enforcement.	ER	99	Table 5	0	Noted.	
1426	KH	Wabageshik Rapids will be impacted for canoing/kayaking, however this impact does not appear to be fully identified/assessed.	ER	100	Table 5	0	No recreational use of Wabageshik rapids determined through public consultation. Most use occurs at Graveyard rapids. Will revise discussion in report to reflect public consultation results and resolutions.	
1427	KH	Impacts to navigation should be identified/assessed.	ER	103	Table 5	0	No recreational use of Wabageshik rapids determined through public consultation. Most use occurs at Graveyard rapids. Will revise discussion in report to reflect public consultation results and resolutions.	
1428	KH	Max and min water levels in the lake need to be definitive reflected in the Operating Plan and assessed for stakeholder impacts.	ER	105	5.1.1	0	Acknowledged, text will be reviewed and revised for final Class EA, as necessary/possible	
1429	KH	The proposed dam will have an impact on canoeing/kayaking/use of the rapids.	ER	113	5.1.16	0	No recreational use of Wabageshik rapids determined through public consultation. Most use occurs at Graveyard rapids. Will revise discussion in report to reflect public consultation results and resolutions.	
1430	KH	MNR's preferred option is to use existing corridors where possible, and encourages Xeneca to work with existing landowners for solutions.	ER	114	5.1.19	0	Noted, but see above. Xeneca typically does maximize use of existing infrastructure. In this case, the trail is not amenable to development due to concerns over ownership, constructability, unnecessary potential harm to habitats for sensitive species.	
1431	KH	Soil and sediment quality. it is suggested that Xeneca re-examine the potential impacts for soil compaction in footprint and ROW's and excavated material, and relevant info included in table.	ER	122	Table 6	0	Would generally disagree that there is a residual effect. Temporary access on the ROW or in project areas that are not permanently affected by structures are reclaimed including de-compaction of soils and seeding.	
1432	KH	Navigation: residual effect should be yes as the Dam will impede recreational navigation and enjoyment of the rapids.	ER	125	Table 6	0	No recreational use of Wabageshik rapids determined through public consultation. Most use occurs at Graveyard rapids. Will revise discussion in report to reflect public consultation results and resolutions.	
1433	KH	Views and aesthetics: should be yes as this will change this	ER	126	Table 6	0	The project will be designed with consideration of aesthetics, as best practicable.	

		river completely with a Dam and Powerhouse						
1434	KH	Access Roads: references Hwy 101 - appears to be an error.	ER	130	7.1	0	Acknowledged, text will be reviewed and revised for final as necessary/possible	
1424	KH	Under access roads they talk about the gating of roads in a couple of sections to prevent access. Access restrictions are subject to approval by MNR.	ER	91 & 93	Table 5	0	Acknowledged, specifics on location and nature of access restrictions will be discussed as part of permitting/approvals.	
1360	LF	Annex III does not include potential impacts of roads on habitats.	Annex III	0	0	0	Annex III is being updated to include this.	
1359	LF	Deer travel corridor should be included as candidate SWH based on results of site investigations.	Annex III	71	5.3.1	0	The deer corridor has been reassessed and identified as Confirmed Deer Movement Corridor.	
1361	LF	Table should outline mitigation options for deer travel corridor.	Annex III	116	Table 13	0	Mitigation options for deer movement corridors include constraints on water level fluctuations during heavy used periods such as December/January and March/April. However, the effects of water level fluctuations on deer crossings is not well understood, and it is difficult to make accurate impact predictions. Post-construction monitoring is recommended in conjunction with an adaptive management approach to operations.	
1352	LF	Cannot comment on Natural Heritage Assessment on proposed roads and transmission corridors as this work is yet to be completed.	Annex VI	0	0	0	Very extensive amount of natural heritage assessment has been done as part of route selection to avoid problems in the field in the construction phase. The final step of natural heritage is done in support of permitting well in advance of construction.	
1356	LF	Cannot comment on impacts of roads and transmission corridors as information gaps exist. Transmission corridors may be covered under the alternate review process however roads should be included in the ER.	ER	0	Table 6	0	Our R&L report covers a significant number of very important study efforts to develop a preferred route. This includes photo imagery from a leaf-off flyover and field inspection for purposes of developing a preferred route. The final route will include field verification well before construction and well before permitting.	
1353	LF	Potential Impacts to lake sturgeon should be considered within the SAR section of table 5.	ER	0	Table 5	0	Acknowledged. This will be included in the final ER.	
1351	LF	Impacts on turtles including snapping and Blanding's turtles nesting and overwintering habitats are unclear as no specific turtle assessment was completed at the time of report submission.	ER	0	0	0	Impacts to the habitats of Blanding's turtle and snapping turtle nesting and overwintering habitat will be discussed in the final ER. A precautionary approach will be taken with a focus on habitat.	
1354	LF	Blanding's and snapping turtle habitat may not be impacted according to report as suitable habitats may be found behind tributary associated with a beaver dam. The potential impacts of frequent water level fluctuations on the beaver dam(s) should be outlined as this could significantly impact a variety of habitats.	ER	0	Table 5	0	The long-term integrity of the beaver dam requires ongoing maintenance by beavers. Beaver activity can be expected to continue, but the beaver dam will be monitored post construction to ensure this is the case. The final report will be revised.	
1350	LF	Change Vulnerable threatened or endangered species heading to Species at Risk.	ER	17	2.9	0	Will check	
1357	LF	Cumulative impacts assessment should consider the impacts of the other water control structures within the system not just the Xeneca projects.	ER	130	7.2	0	Domtar and Vale are considered further in the final EA	

1358	LF	Further monitoring should include the assessment of deer crossing impacts associated with water level fluctuations and commitment for mitigations as necessary as well as assessment of impacts to turtle species downstream of the proposed development as a result of water level fluctuation.	ER	136	10	0	Clarification will be provided in final report. Xeneca is preparing a consolidated monitoring plan which will be included in final report.	
1355	LF	Commitment should be made to monitor eagle or osprey nests if in close proximity to the site during construction and particularly during the nesting period until eggs hatch as potential nest abandonment is more likely during this time.	ER	118 of 175	Table 5	0	Clarification will be provided in final report. Xeneca is preparing a consolidated monitoring plan which will be included in final report.	
1517	RP	In this report it states that 'slit clay conditions are considered to have lower sensitivity to erosion than sand and gravel conditions which is an inherent result of cohesive properties'. But if silt and clay are saturated they can erode quickly and catastrophically (see Blanche River below Marter site for example). Are silt clay conditions an issue at Wabageshik?	Annex 1	7	Ortech report	0	Based on the baseline information collected, the site conditions at Wabageshik are entirely different than those at Marter. The surficial geology at Wabageshik consists primarily of bedrock outcrop at the surface with thin layers of primarily sandy overburden. In the proposed headpond area (about 800 meters between the dam and the lake), there was no clay deposit observed. A sand and gravel deposit was observed near the dam site within the proposed inundation depth. The rest of the upstream area will have mostly bedrock shoreline. The downstream area is dominated by cobbles, gravels and silts. The river channel immediately downstream of the dam consists of a stable cobble bed. The size of the material decreases rapidly thereafter, reducing to gravel and then sand with a few hundred meters downstream. Silt occurs in the back-eddy areas of the lake-like feature located downstream. No clay deposit was identified within the downstream zone of influence (down to Graveyard Rapids).	
1506	RP	Figures 8. and 11. are missing from Annex 1.	Annex 1	25 & 27		0	The intent is to finalize these figures after the minimum flow numbers have been agreed to with the agencies.	
1512	RP	The proposed ramping rates for the operation are quite high. A 20 minute ramping time gives a ramping rate of approximately 125 cubic metres per second per hour. In comparison the Kapuskasing River has a maximum ramping-up rate of 24.1 cubic metres per second per hour. The Magpie River has maximum ramping-up rate of 38 cubic metres per second per hour. Is bank erosion a concern in the downstream Zone of Influence with these extreme proposed ramping rates?	Annex 1			0	Xeneca is prepared to reduce the ramping rates. A potential erosion condition does not seem to exist at this site, but reduction of the ramping rate can be achieved through simple settings in the system control software. Xeneca would like to discuss and agree to the appropriate number with MNR.	
1518	RP	The report indicates that this is a desk top level review. I think there is justification to get into the field and consider erosion potential in both the upstream and downstream Zone of Influence. I'm certain there are some 'hot spots' that field crews have observed and need further study or consideration. This does not need to be a lengthy or costly amount of work but I fear a desk top analysis may be too general to be of great value (?)	Annex 1		Ortech report	0	Actually, the Xeneca engineering team has examined the entire shoreline in the upstream and downstream area. We would be pleased to review the findings with the agencies. However, in the context of the tight level restrictions that Xeneca has already agreed to, there is no geotechnical concern.	

1519	RP	The dam location for Attachment 3. Wabageshik - Slope Analysis figure is not in the correct spot; I believe the actual proposed dam location is a couple hundred metres upstream.	Annex 1		Ortech report	0	As the agencies may be aware, the dam location was moved by 255 meters in response to findings during the EA assessment. Reports that we done before this decision was made, still show the old dam location.	
1503	RP	It states that 'fluctuations in lake levels due to daily facility operations will be within a range that is not readily apparent to the naked eye.' I do not think our perception of the water levels is that important - how these fluctuations will impact the Valued Ecosystem Components is what is important.	ER	105	5.1.1	0	Acknowledged, text will be reviewed and revised for final as necessary/possible	
1500	RP	The 100 year flood flow as stated in Section 3.6.2 is 574.8 cms. In Table 3. the 100 year flood flow is stated as 507 cms. Please clarify and correct or explain.	ER		3	0	Acknowledged, formatting will be reviewed and revised for final as necessary/possible	
1502	RP	The stated MegaWatt potential is 3.4 for Wabageshik. By my calculation the 3.4 MW will only be generated when discharges are 63.1 cms or greater. Can there be an estimate of how often this would occur? (e.g. 5% of the time?). What would be the average MW output of the proposed facility considering an entire year?	ER			0	Wabageshik GS planned installed capacity may be slightly lower (circa 5%) than the FIT Contract value awarded to Xeneca which may result in a slightly lower maximum turbine design flow of about 55 [m^3/s], (TBA). The average river flow at Wabageshik is 48 [m^3/s] over an approximate 50 year estimated flow period. However, a river flow of 55 to 63 m^3/s occurs by nature, 23% to 21 % of the time respectively, (ie: less than a quarter of the time) according to our river hydrology report (Hatch) commissioned in 2009. In addition with a limited headpond size and modified run of river operation, Xeneca may be able to 4% to 5% to this value depending on operational plan approval, agreed upon environmental flows a promised lake level seasonal drawdowns, bringing the number up to approximately 23% to 25% of the time. The average output of the plant is difficult to calculate based on several factors including; reduced operational heads based on season lake level drawdown, tailwater effects during high flow, inflows to project dependent upon the existing dam upstream. Further, plant output is reduced due to many losses including; those mentioned above plus, flow passage losses, turbine efficiency curve, minimum turbineable flow losses, generator efficiency, transformer efficiency, line losses and environmental flow losses. However, if one had to estimate the average useful output of the plant, the number would be estimated very broadly to a value less than 50% rated MW. Ie; 1.25 to 1.40 MW.	
1507	RP	A flow duration Q99 value is nearly the lowest flow on record and the summer fall and winter downstream environmental flow targets are at or far below this value. Would this not put the VEC's at great risk?	ER			0	We are in the process of discussing this topic with the MNR and the operating plan for the final ER will include minimum flows that are acceptable to MNR.	
1501	RP	With respect to the information contained in Table 2. Table 3. and Table 4. the facility will be in peaking mode 85% to 95% of the time for 299 consecutive days of the year. Clearly the proposed Wabageshik G.S. is a peaking operation; 'modified run-of-river' is a misleading statement.	ER		3	0	We apologize for any confusion that the terminology "modified run-of-river" may be causing, but it is not inconsistent with terminology used by the Ministry of Energy. The total volume of water released from the facility every day will equal the volume of natural inflow upstream. There will be no extended storage because only a few hours of storage have been built into the proposed project design. In this respect, the facility	

							is consistent with the definition of "run-of-river". However, within the day, the facility operation is "modified" to release more water during the day than at night. Xeneca has been very clear about the proposed opearation from the outset of the EA process. We do not find the terminology misleading and great effort was made in the consultation process to make sure that stakeholder understand this aspect.	
1509	RP	Despite all the work done to model flows for the proposed Wabageshik site actual flows are unknown. Pressure transducers were put in place but was a rating curve ever fully developed to create a flow hydrograph to know with great certainty the flows that are available at the proposed facility?	ER			0	The hydrology work for the proposed project is consistent with good engineering practise. Xeneca retained a leading consulting firm to carry out the hydrology study and defined the prevailing flow conditions. As the agencies may be aware, Xeneca has also obtained additional flow information from the operator of the Lorne Falls dam upstream and installed water level sensor to confirm flows and levels in the area. Xeneca has a high degree of confidence in the quality of the hydrology work done on this project todate. We have also compare the level of work and effort with various other projects that have undergone the EA process in recent years and find that the work exceeds the work done on other projects, particularly in regard to obtaining the Lorne Falls data and the installation of waterlevel monitors requested by the agencies. Xeneca strongly feels that the hydrology baseline data is more than adequate for the EA process.	
1499	RP	There is mention that the consultations with Vale Inco with regards to tailrace impacts are ongoing. Can this be clarified? Has this been resolved?	ER			0	We confirm that discussions with Vale are ongoing. A significant amount of technical data has been shared and the issue of tail race impact has been closely assessed using water level monitoring and hydraulic modeing. Xeneca has committed to Vale to follow natural lake levels or to make such technical adjustments as required so as to not affect Vale. Xeneca has further committed to re-imburse Vale if revenue loss results inadvertently from the operation of the proposed project. Xeneca has also proposed to put a binding MOU in place to reflecgt the commitment by Xeneca. Vale has been provided with all this information and has indicated that Vale is reviewing the information.	
1516	RP	The downstream environmental flow targets of 3 cms (summer) 2 cms (fall) and 1 cms (winter) are very low. Are these values starting points for discussion? Thanks.	ER			0	Xeneca is prepared to discuss adjustments to the values proposed. Such discussions have been initiated but have not been concluded.	
1498	RP	There is discussion that the upstream Zone of Influence is 600 metres and that it is coupled with Wabageshik Lake. Thus I think the ZOI should be stated to be the entire length of the lake in kilometres.	ER			0	Xeneca has made stakeholders aware of the potential impacts on Wabageshik Lake. To this end, appropriate poster boards were shown at the PICs and consultation has included cottagers on the lake. However, it should be noted that the only new inundation resulting from the project will be the 600 m reach between the dam and the lake. Xeneca has firmly committed not to change lake levels except for a potential +/- 5 centimeter amount.	
1460	RR	It is unclear as to how Xeneca integrated the Waterpower Class EA process with provincial regulatory processes specifically with respect to MNR permits and approvals and the Aboriginal consultation component during the EA process.	"ER	60	4.1, 4.2	0 "	EA and other provincial processes are harmonized to the extent possible. Due to project and business timing restrictions EA and permitting will remain largely separate. Yet, a great deal of information needed for permitting is included in Annex's to the EA.	

1485	RR	the harmonizing and timelines indicate that additional aboriginal consultation and benefit discussions (ie. Site Release) will occur after Notice of Completion and at Location Approval stage. Two separate processes being blended which may create pressures on MNR during permits/approval stage.	Appendix E	5	2.3	8	This is noted by Xeneca and we recognize that this is a risk of proceeding with site release concurrently with the EA approval process. We have no other recourse available to us under FIT process.	
1486	RR	The word 'municipal' is inappropriately used in this sentence while referring to Aboriginal communities.	Appendix E	7	2.4	24	This is a minor technical error and the word "municipal" should have been deleted. It is not proposed that a new ACP be issued because of this minor technical error.	
1489	RR	Generally this table is inconsistent with consultation requirements during EA and permits/approvals stage including requirements for MNR site release (ie. B2B). Phase 3 studies inconsistent with Xeneca's e-mail to Aboriginal communities indicating they will not be required as cultural site will be avoided. Under Location Approval unknown what reference to 'Marter' is for. Appears to be incomplete or error. Also table identifies that further aboriginal consultation may be required after Statement of Completion during Approvals/permitting stage. Table suggests that consultation and IBA with aboriginal communities to be completed at start of construction. This seems to be late in the process. Unknown what reference to 'Half Mile' is.	Appendix E	9	Table 1	0	These minor errors will be corrected in the final version of Table 1 in the ACP. It is not proposed that Xeneca issue a new ACP to the consultation communities as a result of these minor technical errors.	
1490	RR	This table clearly indicates that the engagement period with Aboriginal communities for consultation will occur after EA. Should this has been done early in the EA process?	Appendix E	11	Table 3	0	Xeneca views that the engagement period has been ongoing since the process of site application, and once being notified of the FIT Contracts. Xeneca issued letters of December 2010 informing communities of our intent to pursue the development of this project and to seek input from the consultation communities. The point of the table is that Xeneca views consultation to be an ongoing process and can continue even after the completion of the EA process. This is not to say that the ACP is not complete but it is to say that communities will always be advised of progress on the project and have opportunity to input in various areas e.g. timing and placement of temporary road restrictions.	

1521	RR	General comment that the Contact and Consultation Log for Aboriginal communities are insufficient for the MNR (perhaps Crown) to determine if adequate consultation with communities has been undertaken by Xeneca. Appears lack of traceability and transparency with engaging communities in meaningful way and in decisions. Unable to separate consultation efforts under EA and business discussions associated with MNR site release. As a result additional consultation may be required by Xeneca during permit/approval stage. In March 2012 MNR requested Xeneca to make additional efforts to engage Identified Aboriginal communities relating to B2B. Unknown from logs if Xeneca has followed up.	Appendix E		Log	0	The point is noted and Xeneca has been working with MNR and MOE Regional Tables to establish a reporting template to separate the Duty to Consult obligations under the Waterpower Class EA and the B2B obligations under the MNR's site release process.	
1482	RR	General comment that Aboriginal Consultation Plan should have been finalized early in the EA process and carried out during the EA. Leaving the ACP to the near end of the EA leaves uncertainty in Aboriginal consultation during the EA and later in permits and approvals stage.	Appendix E			0	The Aboriginal Consultation Plan was originally developed to assist and provide Aboriginal Communities some assurances that it would continue to work with communities both prior and post EA process. Updated ACPs were provided based upon agency input and should not be deemed to be a "new ACP" but rather updates with revisions or improvements on the earlier text. The updates also reflected input from the Federal Regulating Agencies adding a significant number of communities to the consultation list, and it was felt by Xeneca that this should be communicated to all communities through an revised and updated ACP. It is Xeneca's position that these changes represent minor changes to the ACP.	
1450	RR	Executive Summary Archaeological Sites Line 20 It is recommended that the Belmer Site be subject to Stage 3 assessment prior to any proposed construction activities. This statement appears to be inconsistent with the Aug 21/12 e-mail from Xeneca to Aboriginal communities indicating that a Stage 3 assessment will not be required as it is anticipated that the site can be avoided.	ER	0	0	20	The recommendation from Xeneca's archaeologist for a Stage 3 archaeological assessment for the Belmer Site was made prior to knowledge of the proposed construction and development plan. Since then, Xeneca has determined in discussion with Xeneca's archaeologist that the construction and development plan will not disturb the Belmer Site if an adequate buffer and monitoring zone is established in accordance with the requirements set by the Ministry of Tourism, Culture & Sport under its Requirements for Consultant Archaeology. Xeneca has committed to working with our archaeologist to provide this zone in compliance with the regulatory requirements so as to not create a disturbance of the Belmer site.	
1415	RR	Will the Notice of Completion be provided to Aboriginal communities?	ER	10	1.4.5	20	Yes, when it has been approved.	
1456	RR	Will the Notice of Completion be provided to Aboriginal communities?	ER	10	1.4.5	20	Yes, when it has been approved	
1457	RR	This statement appears to be inconsistent with the Aug 21/12 e-mail from Xeneca to Aboriginal communities indicating that a Stage 3 assessment will not be required as it is anticipated that the site can be avoided.	ER	23	2.10.1	23	See the response for 1450.. This area is not in the construction island. Measures will be taken to positively isolate it.	

1459	RR	It will be interesting to hear the perspective from Aboriginal communities on the extent of the engagement by Xeneca with Aborginal communities on spiritual ceremonial and burial grounds.	ER	35	2.11.10	0	Noted. Xeneca is equally interested and welcomes the opportunity to learn of the perspectives of any of the Aboriginal Communities on these issues. In particular. WRFN has expressed a desire to have a Council of Women Elders (water keepers) attend the site to establish these issues in its recent meeting of October October 18, 2012. The MNO has also requested consultation on the impact on the spirit of the water through the proposed development. Xeneca welcomes and has offered to work with these communities to set up these sessions.	
1461	RR	Paragraph 2 & 3 Reference is made to 'meetings being held with Identified Aboriginal communities as part of the business to business Aboriginal consultation initiative.' This statement confuses the MNR's Site Release requirements with the consultation requirements under the Waterpower EA. In both processes it is unclear if sufficient efforts have been made by Xeneca. It should be noted that these are two separate processes.	ER	62	4.2.4	23	Noted. See comments in 1521.	
1463	RR	MNR has not endorsed any Draft Aboriginal Consultation Plan that I am aware of. Also I am not aware of high levels of MNR engaging in meetings that resulted in mutually agreed upon approach for the planning and approval process. Unable to locate the meeting minutes of July 19/12 in Appendix C. Also Appendix C appears incomplete.	ER	69	4.3.2	6	The Aboriginal Consultation Plan is a voluntary mechanism developed by Xeneca. Xeneca acknowledges that there has not been any endorsement by the MNR. Meetings have occurred at a regional level to establish a common template and reporting process.	
1465	RR	Sudbury MNR did meet with AA separately. Unclear if Xeneca took additional efforts to meet with AA.	ER	81	4.5	19	Xeneca has maintained communication and project updates. All correspondence and email notifications included an invitation to meet with Xeneca representatives.	
1464	RR	Whitefish River First Nation should be under 'Identified' community. Does Wahnapitae FN belong under 'Local' community?	ER	81	4.5	0	Acknowledged, Whitefish River First Nation is an Identified community. Wahnapitae First Nation is a federally listed Aboriginal Community that will also receive environmental consultation.	
1466	RR	Request for separate to host first Information Centre at Wikwemikong was denied by Xeneca.	ER	82	4.5	5	On August 20, 2012 Xeneca met with representative in Wikwemikong Unceded Indian Reserve and both Allen & Struthers and Wabageshik Rapids project were presented to a number of Council representatives, managers and staff, general community members and youth. Xeneca is prepared to host a community information session for this project if this is desired by the community.	
1467	RR	Xeneca has informed Aboriginal communities that engagement plan will formally begin after Notice of Completion at which time the ER will be provided to the communities for 30 day review. Is this considered appropriate consultation under EA?	ER	82	4.5	32	In respect to the concern of the letter dated May 13, 2011,noting that the Aboriginal community engagement plan would begin formally after the issuance of the Notice of Completion, this was issued in advance of the intention to a Statement of Completion for this project. The purpose of this letter recognized at that time that many of the consultation communities, despite having received ongoing information about the project, had not engaged directly with Xeneca, or if there had been engagement, had	

							not developed processes with Xeneca to review the information and to provide comments and concerns that could be identified. Xeneca had decided at that time to shortly issue the Statement of Completion for the project and therefore wanted to assure communities that it would continue to address issues raised by communities after this point. We also noted to the communities that there was also (at that time prior to the legislative change) of the ongoing federal Canadian Environmental Assessment Agency (CEAA) review and that the concerns of Aboriginal Communities would have to be addressed through this process. Xeneca was seeking to assure Aboriginal Communities that notwithstanding its desire to complete the provincial environmental assessment process through the Waterpower Class EA its concerns must still be addressed through the CEAA process. Subsequently, Xeneca did not file a Statement of Completion for the project in 2011, and therefore continued to provide ongoing and updated information on the project to the Aboriginal Consultation communities.	
1469	RR	Similar to pg 82 but inconsistent Aboriginal community engagement plan will begin after issuance of Notice of Completion at which time the ER will be provided to the communities for a 60 day review. Is this adequate consultation under EA?	ER	83	4.5	28	This may be a mis-statement in the Aboriginal Consultant Plan. Xeneca has been engaging communities actively since being first informed of receiving FIT contracts and has made best efforts to contact and arrange for face-to-face meetings. Project Descriptions were provided and updated based upon agency feedback. Xeneca is now proposing to provide the draft ER shortly after agency review, but prior to the issuance of Notice of Completion. The intention is to provide Aboriginal Communities as much time as possible to review the draft ER. Xeneca is prepared to provide communities with support to review and understand the information contained in the draft ER (including all of the background technical information) as required by the Aboriginal Communities.	
1470	RR	Unsure if this would be the same perspective by MNR of what occurred during meeting of Feb 2012 with UOI reps.	ER	84	4.5	1	Xeneca offered its version of meeting minutes to the Union of Ontario Indians for their review and to date they have not responded to what was recorded. It is reasonable to expect that the MNR may have a different perspective compared to Xeneca of what occurred during the meeting of February 2012.	
1474	RR	It is unclear if specific issues from Aboriginal consultation are complete in Table 5.	ER	115	5.2	3	Aboriginal engagement and consultation is ongoing between Xeneca and the communities. Xeneca and First Nation relationships and working protocols continue to progress forward on a timeframe that is conducive to the Aboriginal communities capacity and priority. Xeneca is now realizing First Nation collaboration on its consultation efforts and will commit to the work after the completion of the EA.	
1475	RR	Incorrect reference to Serpent River Water Management Plan (should be Spanish River)	ER	137	10	22	Acknowledged, text will be reviewed and revised for final as necessary	

1476	RR	Reference made under Consultation that the proponent is committed to MOU's with FNs. This is confused with MNR Site Release. Also proponent is committed to continuing to engage stakeholders after issuance of Notice of Completion and Statement of Completion. Should this consultation be done during the EA process prior to the Notice?	ER	138	10	19	Xeneca takes the view that it has been consulting with communities since it sought site release and notified communities of receipt of the FIT contract and that this is an ongoing process. Xeneca acknowledges that sufficient project information must be provided to Aboriginal Communities to adequately assess project impacts prior to filing Statement of Completion. Every effort is being made by Xeneca to engage and to obtain comments and concerns from Aboriginal Communities. As it relates to the concept of MOUs, Xeneca is interested in coming to an understanding with all communities (whether identified or local) in terms of either supporting the project or issuing a letter of no concern. Xeneca seems MOUs more broadly than simply the provision of economic benefits. It is an agreement on process for consultation.	
1477	RR	Confuses MNR Site Release process with consultation under EA. Also requirement for Stage 3 assessment is inconsistent with what Xeneca has informed Ab communities.	ER	140	11	25	We will delete the reference to "business to business" in line 26 to clarify that point. Xeneca initially informed the communities on August 15, 2012 that we were intending to proceed with a Stage 3 archaeological assessment. Subsequent investigation and analysis by Xeneca determined that this is unnecessary and on August 21, 2012, we informed the Aboriginal Communities that we will instead be creating a buffer and monitoring zone in compliance with the requirements established by the Ministry of Tourism, Culture & Sport's Guidelines for Consultant Archaeologists, unless it is subsequently determined that we will impact the Belmer Site zone. If that is so determined, we indicated that we would consult with the Aboriginal Communities and proceed with a Stage 3 archaeological assessment.	
1452	RR	Executive Summary Project Description Is this statement 'Based on First Nation input alternate materials other than concrete, a' relevant to the Wabageshik site?	ER			13	That sentence will be deleted from the document.	
1455	RR	Executive Summary Further Investigations This statement appears to be inconsistent with the Aug 21/12 e-mail from Xeneca to Aboriginal communities indicating that a Stage 3 assessment will not be required as it is anticipated that the site can be avoided.	ER			4	The executive summary will be re-written to reflect Xeneca's current position on mitigation and a buffer zone.	
1454	RR	Executive Summary Residual Adverse Effects Suggests that potential for economic development is only afforded to those Aboriginal communities pursuing a business to business relationship with the proponent (ie. Those Identified Aboriginal communities as set out under MNR site release policy and not through consultation with Ab communities under the EA).	ER			6	The perception will be revised. It should be noted that Xeneca has offered economic benefits to appropriate communities that are interested in participating, but that if such a community is not currently listed as an identified community, we are re-directing them to the MNR for clarification. Equity participation however, is being offered only to those communities that are listed as "identified communities" under the MNR's site release3 policy.	

1451	RR	Executive Summary Aboriginal Land and Water Use It is unclear as to what Xeneca has provided to Aboriginal communities on the project and may not be accurate indicating that this has been done under the guidance of the MNR. The process under the Waterpower EA and MNR's Site Release Policy appears to be blended together.	ER			0	We will re-write the last sentence in this section to read, "Xeneca is working towards possible community benefit arrangements with impacted communities."	
1473	RR	Table 5 Economic Development Business to Business is incomplete for Identified Aboriginal communities.	ER			4	Acknowledged. Business to Business discussions are ongoing and will be updated in the final document.	
1472	RR	Table 5 Aboriginal Community Considerations Mitigation indicates that business to business discussions (MNR Site Release) will occur after issuance of Notice of Completion. Confusing	ER			6	Acknowledged, Business to Business discussions are ongoing and will be updated in the final document.	
1458	RR	Paragraph 2 Recommend changes to this paragraph to clearly indicate which potentially affected Aboriginal communities identified by Ontario (not MNR as stated and not associated with MNR site release policy). The communities that were recommended by Ontario for consultation included WLFN WRFN SagamokWikwemikong North Channel Metis Council Sudbury Metis Council. Note Wahnapitae FN was not recommended by Ontario. The statement relating to 'àthese First Nation communities were originally contacted and consulted by the MNR during the planning process that lead to the release of this waterpower site.' is inaccurate.		33	2.11.10	2	This will be corrected. Wahnipitae First Nation was recommended by the Federal Regulating Agencies and will be corrected. Wikwemikong Unceded Indian Reserve was inadvertently left off and will be corrected in the final version. It should also be noted that we had a recent presentation on October 22, 2012 to Chief and Council at Wikwemikong wherein Council expressed interest and a desire to be treated as a identified First Nation on this project. They also indicated that they support the development concept and economic participation model advanced by Xeneca and directed its energy planner to work proactively with Xeneca to further explore their interest.	
1462	RR	Although Aboriginal communities were notified of the first PIC and invited to attend Xeneca provided no option for hosting separate Aboriginal community information centres.		62	4.2.5	0	Acknowledged, Xeneca changed its practice to invite Aboriginal communities to host the Xeneca team in their communities in the second round of information centres and continue to offer the sessions.	
1453	RR	Executive Summary Positive Effects Where/how in the ACP are benefits to Aboriginal communities including employment opportunities referenced?				11	The main purpose of the ACP is to propose a potential process that could generate a discussion on how Aboriginal communities and Xeneca can work with. Employment opportunities and economic participation are generally outside the EA consultation process and for a potential component of working towards accommodating the impacts of project development and operation.	
1568	RS	Figure 9 shows increase in tailwater level at Lorne Falls and the concern is on any impact or increase in water level at the Lorne Falls dam.	Annex 1	0	0	0	Xeneca is aware of this issue. It was noted in the report that this was an artifact of the modeling work. A firm commitement has been made in the Operating Plan to not affect the tailwater level at Lorne Falls. Extensive work has been done to support this commitment with technical data.	
1567	RS	Concern that Lidar was only used for 1.4 km downstream while Goggle Earth was used for the remainder of the zone of influence downstream. Comments need to be provided discussing the accuracy of Goggle Earth the limitations of such and the overall impact.	Annex 1	0	0	0	Lidar, as used in this project, has only been available to general use for a few years. Xeneca is one of the first waterpower proponents to extensivley use Lidar to supplement the available geodetic information from public data bases (eg the provincial DEM data nad FRI data). In addtion, we have installed wagter level meters with accurately surveyed data points. There is no regulatory requirement to carry out Lidar mapping for waterpower projects. Xeneca has gone to great length to present	

							highly defensible data and believes this data is more than reasonable for EA purposes.	
1565	RS	Figures 8 and 11 are missing.	Annex 1	0	0	0	The intent is to finalize these figures after the minimum flow numbers have been agreed to with the agencies.	
1561	RS	it is stated that the maximum daily fluctuation is 0.1m but it is not clear if this is for the entire head pond (existing lake and new inundation area) or for the lake only or the new inundation area only.	Annex 1	21	0	0	Xeneca has commited to +/- 5 centimeters in Wabagishik Lake. Under most flow conditions, the same would occur in the headpond. However, during certain flow conditions, especially flood flows, it is necessary to lower the water level at the headpond more than 5 centimeters to achieve the water surface slope that is required to move a large volume of water through the dam site. The detials of this information is contained in the hydraulic modeling reports.	
1563	RS	On Figure 4 it is not clear on why the LTAF NOL would be at the upper limit or extent of the 100 year flood elevation?	Annex 1	22	0	0	The hydraulic modeling work made certain assumptions on lake levels. It became clear after we saw the model results that the lake level would have to be lower than 205.0 mMSL at LTAF flow to "follow natural lake levels" as is commited to by Xeneca. Xeneca will ensure that the version of the operating plan that is release to the public will contain the appropriate value that is consitent with Xeneca's commitment to follow natural lake level.	
1564	RS	Figure 5 - there is a comment made with respect to the modeling artefacts and results in the post-project LTAF being above the pre-project LTAF. More details and additional explanation are needed on this modelling artefacts dealing with what caused why it cannot be removed from the model and what is the impact on this artefact on other runs of the model. Note that this is not in accordance with Figures 4 6 and 8 which show all show an increase in headpond level from pre to post development.	Annex 1	23	0	0	Xeneca has made a firm commitment to "follow natural lake level". Xeneca has installed water level meters and developed a rating curve for this purpose. We will ensure that this commitment is clearly explained in the Operating Plan before it is released to the public.	
1558	RS	There needs to be comments and justification on why there was only a desk top study undertaken for potential erosion. There should be comments on why there was no need to go to the site and inspect/investigate to groundtruth assumptions. A site visit should have been undertaken to confirm assumptions. Specifically there is a concern with respect to the scour potential of the downstream cobble bed.	ER	0	0	0	Actually, the Xeneca engineering team has examined the entire shoreline in the upstream and downstream area. We would be pleased to review the findings with the agencies. However, in the context of the tight level restrictions that Xeneca has already agreed to, there is no geotechnical concern.	
1557	RS	There should be clear indication that specifies what level the clearing (cutting of the trees) is to take place in/around the headpond.	ER	0	0	0	Trees (over 5cm in diameter) below the upper limit of the target operating level would be cleared.	
1554	RS	There needs to be assurance that there will be no impact (i.e. flooding) of private land up to and including the IDF and for the entire headpond (for both the newly inundated area and the existing lake).	ER	0	0	0	Our operating plan will not materially impact Wabageshik Lake. If we did impact Wabageshik Lake, it will affect scores of private landowners including a number of owners that have shoreline riparian land rights (as they have purchased the shoreline allowance from the Crown).	

1553	RS	It is stated that the upstream inundation zone will extend 11.7 km and then also indicated that the Lorne Falls dam (Vale) is 9.5 km upstream. The concern is with regards to the possible inundation or impact of Vale's tailrace at Lorne Falls. Either clarification or more details/discussion on the possible impact of the head pond on the tail race needs to be provided. I note that there was no inundation map provided for the existing lake area.	ER	0	0	0	Xeneca has firmly committed to follow natural lake levels in Wabagishik Lake, subject only to a +/-5 centimeter fluctuation due to operations. To this end, the impact on Wabagishik Lake is minimal. The area of new inundation will only extend from the dam to the lake, a very small area (600 meters long) that has been clearly presented in the EA process. Xeneca has committed not to negatively affect the tail race levels at Lorne Falls. The difference in 11.7 km and 9.5 km seems to relate to either inclusion or exclusion of the Lorne Falls tailrace canal.	
1552	RS	There should be more detailed discussion on the possible fluctuations that would occur within the 600m inundation zone immediately upstream of the dam.	ER	0	0	0	Acknowledged, text will be reviewed and revised for final as necessary/possible	
1550	RS	There is a fairly good description on how they plan to operate the facility but a typical yearly cycle with average flows that would be expected during that period and having both the upper and lower operational ranges (day time versus night time levels) shown would help people (general public) visualise the proposed operational ranges.	ER	0	0	0	At the last PIC, a lake level chart was presented to help the public better understand the natural yearly cycle of lake levels and the impact of operation thereon.	
1559	RS	It is not clear on where the base or residual flow will come from (e.g. turbine low level outlet).	ER	0	0	0	The flow would come from the powerhouse for meeting minimum flow requirements.	
1443	RSt	what is the purpose of stockpiling 'unsuitable material' or 'extra blast rock' . Unnecessary excavation/clearing should be avoided to minimize need for this. Construction sequence (1.5) needs to address rehabilitation of all disturbed areas including plans for leftover material.	Annex II	31	1.2.1	3	Project structures will require a certain amount of excavation based on their required physical size. The native materials may or may not be suitable for re-use in the components of the project (i.e. saturated silty soils are not suitable for backfill). Blast rock will almost certainly be re-used in the project components, assuming it is not ARD. Excavation will not be done unnecessarily. Stage 4 on page 34 discusses removal and restoration of all temporary works.	
1442	RSt	testing of material to determine suitability should also include tests to determine if it is acid generating. Acid generating rock would not be suitable for use in an in water situation.	Annex II	31	1.2.1	1	Testing would include testing for ARD and ARD positive material would not be used.	
1441	RSt	Refers to 'earth borrow material may be excavated from the up-slope side of the temporary north bank access road' - the location shown on the diagrams on page 36 is the steepest section of the north bank and is shown as Nipissing Diabase on geological mapping. Unlikely to be a source of 'earth' or any unconsolidated material. In addition removal of surface material and vegetation from part of a steep slope could result in significant long term erosion/sedimentation and slippage of the material remaining above the stripped area (safety issue) in addition to the high impact on aesthetics of the area(which they state elsewhere that they are going to preserve.)	Annex II	31	1.2.1	1	Borrow area is shown in concept level detail only. Aggregate borrow development plan would be prepared and approved prior to any stripping and aggregate extraction. Plan would include reclamation details.	

1439	RSt	Section identifies 'borrow/Laydown' areas totalling 5000m2. Also state that a larger area may be required or it may be in an alternate location. Operational justification for some of the areas has not been provided. Unclear if 'levelling' in some areas will be by filling or by excavating. Others appear to be simply for a source of aggregate. Insufficient information to determine if/when an aggregate permit would be required.	Annex II	31	1.2.1	0	Need additional testing to confirm required borrow area locations and extents. Levelling would be by combination of cut and fill, depending on specific terrain.	
1440	RSt	section states that 'to generate additional blast rock material the foundation or powerhouse excavations may be extended deeper or wider to generate the required material'. While use of the material that would be justified by the engineered footprint of the structures is an acceptable source expanding that area strictly for the purposes of obtaining more aggregate is not acceptable.	Annex II	32	1.2.1	1	Agreed. This can be revised in the CMP	
1396	RSt	adjacent authorized site list is incomplete. Map of sites in adjacent townships/licence information can be obtained by contacting Sudbury District Also Licencee for 20425 is now Interpaving Asphalt and Aggregate Supply Ltd.	ER	29	0	0	The Aggregate list will be included in the final ER. The record was updated accordingly.	
1544	BT	Further clarification required on the frequency at which you determine the average lake level. (Monthly or Annual average/POR?)	Annex I	10	1	3	Existing lake level has been monitored using hourly levels. A very accurate Stage-Discharge curve has been developed. During operation, the lake level and powerhouse operation will monitored minute-by-minute.	
1569	BT	Further clarification required on 40cm absolute error - how does this influence the modelling results and assessment of impacts?	Annex I	15	1052-001-3.1.3	0	Xeneca has retrieved the water level data for the area. The data confirm the predictions that the model had made as accurate and reasonable. The hydraulic behaviour of the river in this area is now very well understood. Additional data has been shared with the agencies under separte cover. We would be happy to review the information with you. However, the basic understanding remains the same as what was presented.	
1663	WS	Re: Proposed Operating Plan (July12 - rev5) - Additional review dialogue and agency concurrence regarding proposed operating strategies is required. As currently proposed downstream environmental flows are too low representing extreme drought conditions and the overall range of daily fluctuation during periods of intermittent ops is too high. Also require confirmation as to whether proposed pulse operation will occur once per day or multiple times per day as this will also drive impact levels related to the aquatic ecosystem erosion public safety etc. Daily water level / velocity fluctuation certainly has potential to affect aquatic productivity (consistently wetted	Annex I	0	0	0	Xeneca would welcome further discussion. Some follow up discussion has occurred over recent weeks since the agency draft EA was issued. Xeneca would like to achieve consensus with the agencies on this topic	

		habitat / substrate modification related to erosion & sediment transport / loss of vegetation / dewatering and/or dislodging of benthic invertebrates / reduced cyprinid production / ice scour / stranding of fish etc.). We acknowledge Xeneca's commitment for 'true' run of the river ops during the walleye spawning / incubation period but also need to cover pike spawn as well as sturgeon incubation & drift and we need to consider impacts at other times of the year as well. Effects on the full range of habitat types / channel profiles (e.g. fast water habitats & wetland areas) need to be considered in order to inform decisions regarding appropriate operating strategies. We do acknowledge that some progress is being made on this front and look forward to additional dialogue.						
1664	WS	Re: Erosion Potential Assessment - Does not appear to address the full ZOI either upstream or downstream. The downstream VFR between GS and Graveyard Rapid being of particular concern given magnitude of potential fluctuation.	Annex 1	0	0	0	Xeneca has commited to +/- 15 centimeters in the reach 0.3 km to 3.0 km downstream. This fluctuation is consistent in magnitude with the daily level fluctuations in the Spanish River immediately downstream. The level fluctuation is not significant enough to give rise to significant erosion.	
1669	WS	Re: Site Layout - Tailrace location / design may require further consideration. Would like to see pool function below spillway dam maintained. Also wonder about concentration of direct tailrace flow through the critical spawning habitat on south side of channel. Will the resulting velocities exceed suitability for spawning?	Annex II	0	0	0	Spillway is concept level design only. Detailed design has not been carried out. These issues would be considered in detailed design phase.	
1667	WS	Re: Construction Mgt Plan - At first glance the temporary road & borrow / laydown area identified along steep slope on north side of the river would seem to present a high level of disturbance. More dialogue required.	Annex II	0	0	0	Borrow/laydown area extents have not been defined. Location is based on concept level information only. See response to 1441.	
1670	WS	Need to acknowledge value of pool below proposed GS. As well as a staging area for spawning redhorse sucker walleye and potentially sturgeon the pool is known to seasonally hold large numbers of northern pike presumably feeding on YOY suckers and other drift.	Annex III	26	3.2.1	0	We will incorporate this additional information into our characterization of the aquatic habitat, and revise the impact assessment to reflect these habitat functions. Some additional discussion with MNR biologists may be helpful to ensure their knowledge of the river is included in the final ER.	
1690	WS	Report acknowledges refuge value of pool below proposed GS to redhorse spc. This pool is also known to hold large numbers of pike presumably feeding on YOY suckers and other drift.	Annex III	26	3.2.1	0	We will incorporate this additional information into our characterization of the aquatic habitat, and revise the impact assessment to reflect these habitat functions. Some additional discussion with MNR biologists may be helpful to ensure their knowledge of the river is included in the final ER.	

1689	WS	The large lacustrine / wetland feature below proposed GS (characterized by large back bays / slack water / dense aquatic veg'n) provides nursery refuge and feeding habitat for wide range of species in addition to pike spawning function.	Annex III	28	3.2.1	0	We acknowledge this oversight. The natural environment report for the draft ER included discussion of these habitat functions at the tributary outlets, and also some discussion of impacts on these functions in the impact assessment. However, the habitat description for the river was focused on fish spawning and neglected to describe other habitat functions. This will be updated for the final ER.	
1692	WS	Value of Graveyard Rapid as critical feeding and spawning habitat for a range of species at low flows needs to be acknowledged.	Annex III	29	3.2.1	0	We will incorporate this additional information into our characterization of the aquatic habitat, and revise the impact assessment to reflect these habitat functions. Some additional discussion with MNR biologists may be helpful to ensure their knowledge of the river is included in the final ER.	
1693	WS	Re: Table 5 - Habitat calculations presented do not include Wabageshik Lake as part of the upstream ZOI. This needs to be acknowledged in the table or associated text.	Annex III	30	3.2.1	0	Acknowledged. We will include the area of Wabageshik Lake in the final ER.	
1694	WS	Incorrect statement made that pike spawning habitat below Graveyard Rapids is outside of the variable flow reach - clearly within VFR.	Annex III	70	5.2.2	0	We will ensure that the natural environment report for the final ER reflects the variable flow reach / zone of influence that is established through discussions with the MNR and MOE.	
1673	WS	Cannot really say that northern pike will not be impacted by the GS footprint. The pool at / immediately below the proposed dam & tailrace is a pike feeding area.	Annex III	81	6.2.2	0	We will incorporate this additional information into our characterization of the aquatic habitat, and revise the impact assessment to reflect this habitat function for Northern Pike. Some additional discussion with MNR biologists may be helpful to ensure their knowledge of the river is included in the final ER.	
1675	WS	Report states that the +/- 5cm fluctuation is expected to occur once daily but may occur more frequently. Multiple peaks per day would carry greater impact to the aquatic ecosystem / erosion / public saftey etc. Operating regime needs to be nailed down. Once cycle per day would be the most environmentally responsible approach.	Annex III	85	6.4	0	We are in the process of discussing this topic with the MNR and the operating plan for the final ER Our operating plan is one cycle per day.	
1676	WS	Operating plan currently proposed is not consistent with MNR's mandates due to the magnitude of system alteration and associated effects. Xeneca and agencies are yet to come to consensus on an operating plan that will continue to provide for the requirements outlined in the purposes of the LRIA and other applicable legislation, as a starting point for Xeneca's public and Aboriginal consultation. For example, an appropriate Qea and range of daily fluctuation is yet to be agreed upon.	Annex III	87	6.5	0	Acknowledged. We anticipate further discussion and discernment with the MNR and MOE to develop an operating plan that is acceptable to all parties.	
1677	WS	Note: Reference to 6 C trigger for RoR ops to address walleye spawn. Walleye are known to begin to stage and spawn at 4 or 5 C at other Spanish River sites in the local area. A 4 C target for RoR ops would fully capture walleye staging / spawn and better capture pike spawn.	Annex III	89	6.5.1	0	Acknowledged. We will update the Walleye spawning operations table in the operating plan to initiate run-of-the-river operation at 4 or 5 °C. We will also update the impact assessment accordingly for the final ER.	

1678	WS	An existing beaver dam is referenced as mitigating impacts to Tributary A. Will daily water level fluctuations affect the stability of this beaver dam and ultimately water levels in the Tributary?	Annex III	90	6.5.1	0	The long-term integrity of the beaver dam requires ongoing maintenance by beavers. Beaver activity can be expected to continue, but the beaver dam will be monitored post construction to ensure this is the case.	
1681	WS	Based on previous sampling in the system the redhorse species present are likely Shorthead and Silver (not Golden). Believe the site is beyond the expected range of Golden Redhorse.	Annex III	93	6.5.2	0	Agreed.	
1682	WS	ROTR ops for walleye spawn should start at 4 C to fully capture stage and start of spawn. 4 C would also better address pike spawn which often preceeds walleye. Need to further consider whether formula presented for incubation / swim up makes sense. Additional dialogue required.	Annex III	93	6.5.2	0	Acknowledged. We will update the Walleye spawning operations table in the operating plan to initiate run-of-the-river operation at 4 or 5°C. We are also open to discussing the formula for incubation / swim up.	
1683	WS	ROTR ops proposed for sturgeon only cover the actual spawning window. The acceptability of any level of flow modification during incubation / drift yet to be agreed upon. Potentially ROTR thu entire reproductive window (i.e. to June 30th).	Annex III	94	6.5.2	0	Acknowledged. We agree that run-of-the-river operation for Lake Sturgeon should continue until June 30.	
1687	WS	ROTR should commence a 4 C to fully mitigate for pike spawn & staging / early walleye spawn. 4 C as a trigger for walleye is confirmed in Section 6.7 page 103 in regard to fish passage analysis.	Annex III	96	6.5.2	0	Acknowledged. We will update the Walleye spawning operations table in the operating plan to initiate run-of-the-river operation at 4 or 5 °C. We will also update the impact assessment accordingly for the final ER.	
1688	WS	The referenced compliance commitments need to be met thru higher Qea & reduced range of flows rather than thru multiple peaking cycles which would carry much greater impact. This needs to be confirmed in the operating plan.	Annex III	97	6.5.2	0	We wish to continue our discussion on this with the MNR to reach agreement on input to the operating plan.	
1695	WS	The report finding that benthic production is lower at Graveyard Rapid confirms high importance / sensitivity of fast water habitat immediately below proposed GS.	Annex III	97	6.5.2	0	We agree that the habitat at Wabageshik Rapids below the proposed GS is more important than the habitat at Graveyard Rapids. For this reason, we envision that our discussions regarding operations will focus primarily on Wabageshik Rapids.	
1698	WS	Concurrence re: lack of provision for fish passage has not yet been provided by either DFO or MNR. While we acknowledge Xeneca's intent to proceed without such a provision ultimately the statement that passage is not required to meet fisheries management objectives depends on the details of habitat compensation and operations which have yet to be fleshed out.	Annex III	102	6.7	0	Acknowledged. We anticipate further discussions with MNR and DFO regarding fish passage, habitat compensation and operations. We wish to reach agreement on these items. Preliminary documents for the operating plan and fish habitat compensation will be included with the final ER to reflect such agreement.	
1700	WS	The statement that a dam at this location without provision for fish passage will not adversely affect management of fisheries resources is not defensible. There is risk in foregoing passage requirement and this risk needs to be acknowledged. The question becomes whether the level of risk is reasonable and that decision has yet to be made by	Annex III	105	6.7	0	Acknowledged. We anticipate further discussions with MNR and DFO regarding fish passage, and we understand that MNR and DFO must find the level of risk to be acceptable. In the text on this subject in the final ER documents, we will acknowledge that there is risk, and also that MNR and DFO must find the risk acceptable.	

		DFO and MNR.						
1702	WS	Timing window specified for in-water blasting and cofferdam construction / removal not sufficient to address sensitive period for sturgeon or smallmouth bass. May need to extend to June 30th or July 15th depending on nature and scope of work.	Annex III	111	6.8.5	0	Acknowledged. text will be reviewed and revised for final as necessary/possible.	
1704	WS	Upstream compliance commitment of +/- 5cm may ensure minimal / limited impact but not NO impact as stated.	Annex III	120	7	0	We agree that it is not correct to state that there will be no impact. In the final EA we will acknowledge a limited residual effect, but will indicate that the effect will not be significant.	
1703	WS	Need to acknowledge value of pool below proposed GS to northern pike (as per earlier comments).	Annex III	120	7	0	We will incorporate this additional information into our characterization of the aquatic habitat, and revise the impact assessment to reflect this habitat function for Northern Pike. Some additional discussion with MNR biologists may be helpful to ensure their knowledge of the river is included in the final ER.	
1701	WS	Question the need for and impact associated with a laydown area and temporary access road on northwest side of river. Given the nature of the shoreline in this area (steep slopes) such construction would seem to present significant potential for impact to stability and aesthetics. Can equipment not access the northwest work area via the required cofferdam.	Annex III	106 & 107	6.8.1	0	The laydown/borrow area on the north side of the river is shown with concept level dimensions only and will be designed to suit the terrain and availability of borrow materials from the area. Temporary road access to the north side of the river will be required for the project construction. Cofferdams are not planned to span the river during construction (as shown on the construction sequence plan) and cannot be used for access.	
1691	WS	The 4 tributaries to the downstream VFR all provide some fish habitat function. What will peaking do to the interface with main river?	Annex III	31 & 32	3.2.1	0	Some discussion with MNR on this matter would be helpful to reach agreement on the specific concerns for the tributaries. They will then be addressed in greater detail in the final ER.	
1671	WS	The spawning surveys completed in 2011 were conducted late in the spawning window and perhaps this should be acknowledged given that fish were captured at much lower temps by Kilgour in 2012. I expect sturgeon were there in 2011 as well unfortunately prior to sampling efforts.	Annex III	35 & 36	3.2.3	0	Noted.	
1674	WS	Further dialogue required on habitat compensation - not presently able to determine extent of impacts.	Annex III	84 & 85	6.3.2	0	We agree that further dialogue on habitat compensation is required, and we anticipate this occurring before the final ER is completed.	
1680	WS	General Comment - With details of operating strategy yet to be agreed upon very hard to evaluate impacts and effectiveness of mitigation or even ability to mitigate while maintaining adequate generating potential.	Annex III	93 - 98	6.5.2	0	Noted. We anticipate further discussions with MNR and refinement of the operating plan prior to the final ER.	

1685	WS	Benthic production and foraging opportunities in the 400m of high quality riffle / rapid immediately below the proposed GS is definitely of concern. Fish utilize this area heavily likely year round but certainly thru spring / summer / fall. The extent and nature of benthic production in this area would NOT occur elsewhere in the 5km of Vermillion downstream (as stated in the report) given that there are no other similar habitats available. The extent of fluctuation in the critical habitat projected by the latest modelling is unacceptable. Qea needs to be higher and range of discharge fluctuation needs to be lower than presently proposed. To mitigate for stranding Qea needs to ensure sufficient water remains in north portion of channel at transect RS 202.5 off peak.	Annex III	94 & 95	6.5.2	0	Acknowledged. We anticipate further discussion and discernment with the MNR and MOE to develop an operating plan that is acceptable to all parties.	
1696	WS	With details re: design and mitigation for entrainment & impingement pending cannot really evaluate significance of residual effect yet it is ranked low or nil in ER.	Annex III	98 - 102	6.6	0	This inconsistency among documents will be rectified for the final ER. We also anticipate some refinement of the design for the final ER. Purchase of turbines will be done after the ER is completed. Specification	
1697	WS	Should also consider smallmouth bass swim speeds in design / mitigation for entrainment & impingement.	Annex III	99 & 100	6.6.1	0	Acknowledged. We will also consider Smallmouth Bass for the final ER.	
1513	WS	Re: River Hydrology - The statement that the 5km section of river downstream of the proposed dam is mostly deep and uniform is questionable. The river segment referenced is quite diverse include a variety of riffle rapid run pool wetland and lacustrine habitats.	ER	13	2.8	0	Acknowledged, text will be refined for the final ER.	
1514	WS	Note that the hydrographs and flow duration curves for the site are based on 1954-93 date at Lorne Falls. While this seems like a broad dataset what about the last 20 years and what about climate change? Pre 1993 data would not be representative of what we can expect to see in the next 20 years.	ER	14	2.8.1	0	The hydrology work for the proposed project is consistent with good engineering practice. Xeneca retained a leading consulting firm to carry out the hydrology study and defined the prevailing flow conditions. As the agencies may be aware, Xeneca has also obtained additional flow information from the operator of the Lorne Falls dam upstream and installed water level sensor to confirm flows and levels in the area. Xeneca has a high degree of confidence in the quality of the hydrology work done on this project todate. We have also compare the level of work and effort with various other projects that have undergone the EA process in recent years and find that the work exceeds the work done on other projects, particularly in regard to obtaining the Lorne Falls data and the installation of water level monitors requested by the agencies. Xeneca strongly feels that the hydrology baseline data is more than adequate for the EA process.	
1520	WS	Reference to spawning sites in proximity to site is incomplete. There are 6 (potentially 7) known spawning sites within the ZOI - 3 in Wabageshik Lake Wabageshik Rapids (above & below proposed GS) pike spawning in the wetland below proposed GS Graveyard Rapids and perhaps even Darkie Creek depending on boundary of downstream ZOI.	ER	16	2.9	0	Acknowledged, text will be refined for the final ER.	

1522	WS	Re: VTE list - What about Whippoorwill?	ER	17	2.9	0	Will be added in.	
1523	WS	Re: Study Area - dialogue required to clarify downstream ZOI. Compliance commitment of +/- 5cm beyond confluence will limit impact, but can we really say 'no' influence beyond confluence?	ER	17	2.9.1	0	+/- 5cm fluctuation at the confluence with the Spanish River: - Is well within the natural background variation and - Is virtually undetectable. This is far beyond that envisioned in the OWA Class EA in the definition of ZOI, as " immediate area beyond the site directly affected by the project."	
1524	WS	Text acknowledges the deer movement corridor / crossing. At some point in the EA documentation need to identify this as a significant consideration (i.e. SWH).	ER	19	2.9.2	0	We have identified the deer crossing at the base of Wabageshik Rapids as Confirmed SWH.	
1526	WS	Based on previous work we believe that the redhorse sucker species found above Espanola are shorthead and silver (not golden). Would suggest we are beyond the normal range of golden redhorse.	ER	20	2.9.4	0	Acknowledged, text will be reviewed and revised for final as necessary/possible	
1528	WS	Again what about Whippoorwill? Certainly for transmission / access corridors.	ER	22	2.9.6	0	It will be considered as a VEC.	
1529	WS	The deer movement corridor / crossing should be evaluated (and confirmed) as SWH. Given the scope of the SWH surveys it would appear that a number of categories related to wetland habitats which do exist in the VFR were also neglected. Need to revisist SWH review and designation. See related comments re: Natural Environment Characterization.	ER	22	2.9.7	0	The SWH table has been reassessed. The following has since been considered candidate habitat due to the presence of appropriate habitat within the project area: - Waterfowl Nesting Areas - Moose Aquatic Feeding Areas - Turtle Nesting Areas - Marsh Breeding Bird areas - Turtle Overwintering The above candidate SWH will be further discussed in the natural environment report included with the final ER. The following were not revised to candidate SWH as appropriate habitat was not found within 120m of the Vermillion River. - Amphibian Breeding (woodlands) - Amphibian Breeding (wetlands)	
1530	WS	Although the Spanish River Signature Site certainly does recognize / profile the high social value associated with this river system it does not intersect the ZOI for this project.	ER	24	2.11.1	0	Xeneca's proposed Zone of Influence does not fall within the area in which the Spanish River Signature Site is located. Xeneca's project influence ends at the confluence with the Spanish River downstream of the Nairn Centre Dam. Both the Nairn Centre dam and Agnew Lake dams are upstream barriers between Xeneca's project and the signature site. Xeneca recognizes that there may be some effect on the fisheries that are common to sections of the Vermillion and Spanish River between Nairn Centre and the Domtar GS at Espanola. As such, Xeneca has committed to operating regimes to mitigate water level fluctuations and Xeneca has committed to minimum water levels. Both actions reduce impacts on the river and related fisheries. Further, Xeneca has entered in to discussion with the regulatory agencies to determine appropriate mitigation and compensation work. The project area may see some limited canoeing or kayaking	

							activity and Xeneca has committed to work with stakeholders to design any appropriate portage routes around the Wabageshik project.	
1531	WS	While the proposal may not directly compromise structural integrity or preclude occupation of waterfront residences / cottages the aesthetic impacts and water level fluctuations especially downstream will certainly affect use / enjoyment and potentially create erosion problems.	ER	25	2.11.4	0	Xeneca has consulted extensively with property owners. Xeneca has committed to +/- 15 centimeters in the reach 0.3 km to 3.0 km downstream. This fluctuation is consistent in magnitude with the daily level fluctuations in the Spanish River immediately downstream. The level fluctuation is not significant enough to give rise to significant erosion. Stakeholders and property owners in the downstream ZOI have been extensively consulted through several PIC, meetings and individual follow up. Details of the concerns raised and Xeneca's efforts to address them are contained in the consultation record.	
1532	WS	Re: Snowmobiling - In addition to established OFSC trails there is at least some local use of the Vermillion below Graveyard Rapid and the Spanish below confluence. Will the daily water level fluctuations proposed create unsafe ice conditions?	ER	26	2.11.4	0	The daily fluctuation in the Spanish River immediately downstream of Graveyard Rapids is 30 centimeters under existing conditions. Xeneca has proposed a +/-15 centimeter limit on its fluctuations between the dam and Graveyard Rapids (0.3 to 3.0 km downsteam). Stakeholders have been clearly made aware of hte proposed fluctuations.	
1534	WS	Re: ATV Use - Xeneca has committed to using existing roads / trails to the extent possible. The statement that the ATV trail beyond the Elizabeth Lake Bridge will not be affected should be revisited.	ER	27	2.11.4	0	Xeneca will make limited use of the existing ATV trail beyond the Elizabeth Lake Bridge for pre-construction site access using ATVs or snowmobiles, Construction access and subsequent GS access will use the preferred new access road to the east. Therefore, the ATV trail beyond the Elizabeth Lake Bridge will not be affected by the project.	
1536	WS	Re: Hunting Season Table - Weasel and red fox are not hunted species.	ER	30	2.11.6	0	Noted. Will remove the species in the final ER.	
1537	WS	Re: Hunting Economics - The hunter participation data obtained from OFAH was misinterpreted and should either be corrected or omitted entirely (eg. for WMU 39 hunter demand far exceeds supply with only 194 tags available for 2182 applicants). Can only assume the hunter expenditure information is still valid. Where did the WMU specific expenditure estimates come from and what do the represent ... the numbers seem low.	ER	30	2.11.6	0	Noted. The source of the participation rate is the NorthShore Forest Management Plan. Xeneca will verify the information and make amends where necessary.	
1538	WS	Not sure about the limited interaction with aquatic habitats comment. All of the game species discussed require water daily. Moose utilize areas of aquatic vegetation heavily. Deer cross the Vermillion at Wabageshik Rapids.	ER	30	2.11.6	0	Noted. The sentence will be reworded in the final ER.	
1549	WS	Re: Final statement under Fishing - Statement that project will not significantly impact fish populations in not defensible given loss of rapids and water level fluctuations currently proposed. Especially with no details provided regarding compensation and no concurrence on operating plan.	ER	31	2.11.6	0	The final ER will acknowledge a significant residual impact on fish habitat, and indicate Xeneca's intention to construction compensatory fish habitat. A preliminary fish habitat compensation plan will also be included with the final ER. The text in this section will be revised to reflect this approach.	

1548	WS	Re: Sturgeon Population under Fishing - Need to reference confirmation of sturgeon presence in the Vermillion by Kilgour in 2012 and identify as a SAR.	ER	31	2.11.6	0	Agreed. Thanks.	
1551	WS	Statement re: Baitfish activities is incorrect - There are active baitfish areas allocated in both Nairn and Foster Township.	ER	32	2.11.7	0	Noted. The statement will be corrected to include the townships in the final ER.	
1556	WS	Note: reference to a single Kaplan Turbine in this section while Section 3.3.1 on page 40 speaks to potential for more than one turbine unit. Given the challenge of operating with such a wide range of flows in the Vermillion including periods of very low flow suggest another look at feasibility of a paired low flow turbine to minimize extent of peaking and associated impacts during low flow periods.	ER	42	3.3.5	0	It is not economical to install multiple machines at such small power generation plants with limited headpond sizes and low heads, to increase turbine operational flows over an increasingly smaller and less frequent flow range. The additional cost of redundant equipment usually far outweighs the revenue available from the marginal expansion of the operational range. Large projects with large concrete dams and reservoirs often use multiple units as manufacturing and shipping sizes and weight limitations set the maximum flow capacity for single machines.	
1560	WS	Re: Erosion Survey - Described as a desktop survey of upstream areas that may be sensitive to erosion. The bulk of concern regarding erosion would be downstream in VFR would it not? Surely an evaluation of potential erosion problems would involve more than a desk top study.	ER	49	3.6	0	Clarification will be provided in final report. Xeneca is preparing a site specific erosion memo report which will be included in final report.	
1566	WS	Given the body of literature on the subject not sure how one can suggest that modified peaking with intermittent ops is environmentally sensible. Guess this ultimately depending on operating specifics yet to be resolved.	ER	49	3.6.1	0	We have been meeting with MNR on the draft ER to finalise the OP, resolution of the ZOI has expanded to a point where downstream effects are either insignificant and/or un-measurable.	
1572	WS	Statement that 'modified RoR projects typically have less impact than longer term storage projects' may be true as far as upstream inundation / fluctuation goes but degree of downstream impact ultimately depends of the nature and extent of fluctuation and significant daily fluctuation of discharge is proposed.	ER	51	3.6.1	0	The downstream ZOI is resolved in discussions with MNR and the extent/nature of daily fluctuations is also addressed in the OP and resolved in discussions with MNR staff.	
1575	WS	Re: Variable Flow Reach - Description regarding impacts associated with variable flows is lacking. As per earlier comment daily manipulation of discharge has potential to substantially affect system productivity (consistently wetted habitat substrate modification related to erosion & sediment transport loss of vegetation dewatering and/or dislodging of benthic invertebrates reduced cyprinid production ice scour stranding of fish etc.).	ER	52	3.6.1	0	This section provided a brief description of the operations and associated water level fluctuations. Specific impacts are addressed later in the ER. We acknowledge the specific potential impacts cited in this comment, and will ensure that they are address in the final ER.	
1574	WS	Re: Headpond Water Levels - Statement that headpond fluctuation 'will not significantly impact shoreline erosion habitat or property' should be further rationalized.	ER	52	3.6.1	0	Xeneca has committed to limit headpond fluctuations due to operations by +/- 5 centimeters. In comparison, the wave height on Wabageshik Lake regularly exceeds 30 centimeters. Wake height on boats regularly exceeds 20 centimeters. The Xeneca engineering team has examined the shoreline along the headpond and found no	

							indication that a fluctuation of +/- 5 centimeters would give rise to concern.	
1573	WS	Re: Headpond Water Levels - State that 'ops will aim to follow natural lake levels while allowing for a +/- 5cm operating range'. In theory this sounds OK however needs to further defined via season rule curve / monthly target levels and compliance limits. Modelling results do suggest a potential backwater effect and the stated commitment that 'water levels at LTAF will be lower than 1:100 year flood levels in NOT good enough.	ER	52	3.6.1	0	Xeneca has made a firm commitment to "follow natural lake level". Xeneca has installed water level meters and developed a rating curve for this purpose. We will ensure that this commitment is clearly explained in the Operating Plan before it is released.	
1578	WS	Re: Compensatory Bybass Flow - While there is not bypass with a close coupled design still need to explore spillway flow depending on final design of spillway turbine(s) and tailrace in relation to available habitat. It may be necessary to maintain a specified flow over the spillway with the balance of the minimum environmental flow passing thru turbine if low flow turbine capacity exists.	ER	55	3.6.3	0	Acknowledged. We anticipate discussions with MNR on the matter of flows in the spillway and tailrace, and will ensure this is addressed in the final ER.	
1579	WS	Re: Table 3 - Operating seasons need to reflect biological considerations and related operating constraints. For example true RoR through spawn incubation drift (i.e. to June 30th).	ER	56	3.6.3	0	Some follow up discussion has occurred over recent weeks since the agency draft EA was issued. June 30th for RoR is accepted. Xeneca would like to achieve consensus with the agencies on this topic.	
1580	WS	No agency concurrence at this point re: Qcomp & Qea. Values presently proposed reflect extreme low flow conditions and are not appropriate for daily manipulation scenario.	ER	56	3.3.6	0	Xeneca would welcome further discussion. Some follow up discussion has occurred over recent weeks since the agency draft EA was issued. Xeneca would like to achieve consensus with the agencies on this topic.	
1581	WS	Table 4 reports intermittent ops expected 16% of the time annually. Hence a higher Qea as requested will only affect 16% of annual ops.	ER	57	3.6.3	0	Xeneca would welcome further discussion. Some follow up discussion has occurred over recent weeks since the agency draft EA was issued. Xeneca would like to achieve consensus with the agencies on this topic.	
1583	WS	Statements that the proposed ops 'should not adversely affect downstream stakeholders' and that Xeneca can ensure 'no adverse effects only positive change' for any stakeholder in the Spanish / Vermillion is not defensible. There will be some level of impact on property owners anglers and other recreational users downstream as well as potential implications on Domtar ops at Espanola.	ER	59	3.6.5	0	Xeneca is in discussion with the closest downstream riparian landowner and has addressed all of their concerns with respect to the relatively minor water level fluctuations they may see during some period of the year. Xeneca has addressed concerns by committing to a minimum water level in the embayment area on which their recreational property is located. Xeneca has committed to operations that minimize the fluctuation of water. Addressing concerns over potential noise and aesthetics, Xeneca moved the facility upstream 300 metres to a point where the facility cannot be seen. Xeneca has commissioned a noise study of the project which will be included in the final ER. Water quality concerns have been addressed through commitment to install a temporary waterline during the construction period and there will be ongoing post	

							operational monitoring to ensure continued water quality. Further downstream, operational effects rapidly abate and effects of water level fluctuation on landowners are expected to be minimal. Xeneca has committed to limit the daily fluctuations to +/- 5 cm at Spanish River confluence which has a minimum effect in the river system. With respect to recreational uses of the river by riparian land owners, there is no expected reduction in river navigability and work is underway with MNR and DFO to compensate for any aquatic habitat loss associated with the development. Xeneca has had number of interactions with Domtar in recent months. The recorded water level information in Spanish River confluence area and hydraulic models shows that Wabageshik project operation will not have a negative effects on Domtar operation at Espanola.	
1590	WS	Suggesting that +/- 5cm on the lake is within a natural range of daily water level fluctuation caused by wind and wave hence no concern is not really defensible. While the operating range is narrow the effect of daily fluctuation as a result of ops at Wabageshik will be additive to wind and wave action.	ER	78	4.4	0	Xeneca has commited to a very tight operating range of +/- 5 centimeters. In terms of amplitude, Wabagishik Lake fluctuates approximatley 1.5 meters (150 centimeters) during year. In terms of frequency, the shoreline experiences amplitudes of 10 centimeters to 30 centimeters due to wave action every few seconds. Xeneca believes that this clearly shows that a fluctuation of +/- 5 centimeters once per day is not significant.	
1591	WS	Re: 'Agreement in Principal' that project will not affect Vale facility at Lorne Fall - Ultimately will require written concurrence from Vale (and Domtar) that concerns are adequately addressed.	ER	79	4.4.1	0	Xeneca is aware that a consent or MOU from Domtar and Vale is required for the Location Approval process. Xeneca is working earnestly on this topic with those companies. Extensive project data has been shared with both parties. To date, we do not have the consent. However, this consent is not required for the EA process.	
1596	WS	Under SAR - No consideration of sturgeon concerns / impacts.	ER	90	5.1	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible	
1595	WS	Under Water Quality - No consideration of concern expressed by the public regarding potential mobilization of sediments laden with heavy metals. Mitigation presumably linked to range of downstream flows and rate of change.	ER	90	5.1	0	Best practices are used to reduce Hg releases, a seiment control plan is provided and a long term monitoring program. Impact assessment will be reviewed and revised for final as necessary/possible	
1635	WS	Under Terrestrial Wildlife (access road) - Access road construction will fragment a relative undisturbed area. The impact may be low but there is always a RESIDUAL IMPACT where a new road is concerned.	ER	91	5.1	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible	

1600	WS	Under Fish Habitat (impacts related to peaking) - Discussion only relates to spawning window. On that front the only way one can say no residual impact to spawning would be to essentially operate as RoR through spawn incubation drift period for all 3 species of concern (i.e. to June 30th). Furthermore a discussion of fisheries impacts related to peaking needs go beyond just spawning. Peaking will have RESIDUAL IMPACT on fish / fish habitat in the VFR.	ER	94	5.1	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible	
1599	WS	Under Fish Habitat (loss to inundation) - There will be RESIDUAL IMPACT regardless of compensation efforts. Furthermore we have yet to see a compensation plan.	ER	94	5.1	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible	
1598	WS	Under Shoreline Dependent Species (impacts associated with water level fluctuation) - No discussion of downstream fluctuations which are much greater than upstream. Clearly there will be some RESIDUAL IMPACT albeit lower upstream than down.	ER	94	5.1	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible	
1601	WS	Under Fish Migration - There is definite risk to proceeding without a provision for upstream fish passage and this risk needs to be ackowledged through identified of RESIDUAL IMPACT. Interruption of downstream fish passage also presents a RESIDUAL IMPACT. Spawning adults that may come from the lake to use upper reaches of rapid area will not be present post inundation hence no recruitment to lower river from downstream drift. Qea does not address the impact of barrier / inundation on downstream movement of fish.	ER	96	5.1	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible	
1602	WS	Under Fisheries (impacts with ZOI) - Cannot suggest no residual impact to fishery. Habitat compensation and operating parameters have yet to be agreed upon. Even with compensation there will be a RESIDUAL IMPACT associated with peaking.	ER	97	5.1	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible	
1604	WS	Under Water Levels & Flows - Cannot report no residual impact for either the lake or the downstream VFR. Regardless of Qea and other operating constraints yet to be agreed upon peaking will have an impact. Mitigation can reduce impact but not eliminate. There will be RESIDUAL IMPACT.	ER	98	5.1	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible	

1603	WS	Under Erosion and Sedimentation (related to construction & operations) - Should at least reference concern expressed regarding mobilization of heavy metals. Mitigation should include limiting range and rate of downstream fluctuation in addition to referenced upstream constraints.	ER	98	5.1	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible High background concentrations of nickel, copper and aluminum at Wabageshik rapids may not be related to sediment. The Vermilion River watershed has been highly impacted from the copper-nickel sulphide smelting and mining in the greater Sudbury area, and metals concentrations in water at the Wabageshik Rapids site may be from upstream sources carried to the site in dissolved or suspended solid form, runoff from adjacent land, indeed mobilized from sediment at the site or a combination of all three. Clarification will be provided in final report. Xeneca is preparing a site specific erosion memo report plan which will be included in final report.	
1605	WS	Under Navigation - The loss of the rapids certainly impacts the canoe / kayak feature a concern tabled by the public hence RESIDUAL IMPACT.	ER	99	5.1	0	No recreational use of Wabageshik rapids determined through public consultation. Most use occurs at Graveyard rapids. Will revise discussion in report to reflect public consultation results and resolutions.	
1609	WS	Under Aesthetics - What about users of Wabageshik Rapids and the Vermillion River below. The project clearly present a RESIDUAL IMPACT to aesthetics.	ER	100	5.1	0	No aesthetic impact to Wabageshik rapids determined through public consultation. Most use occurs at Graveyard rapids. Will revise discussion in report to reflect public consultation results and resolutions.	
1608	WS	Under Angling - Peaking ops will present a RESIDUAL IMPACT to fish and use of area by anglers also a potential risk to saftey of anglers. Mitigation to include limits to range / rate of fluctuation but cannot eliminate impact.	ER	100	5.1	0	Xeneca has committed to minimum water levels and reduced water level fluctuation in order to ensure current seasonal navigability of the river remains. With respect to the fishery, Xeneca has committed to undertake habitat creation to offset losses associated with the project construction and is currently in discussion with MNR and local conservation clubs to determine if assistance in fish stocking programs has merit..	
1607	WS	Under Recreational Use at Wabageshik Rapids - The upper portion of the rapid will be lost. Below the GS peaking and aesthetic impacts will affect recreational use. Mitigation to include limits to range and rate of fluctuation.	ER	100	5.1	0	No recreational use of Wabageshik rapids determined through public consultation. Most use occurs at Graveyard rapids. Will revise discussion in report to reflect public consultation results and resolutions.	
1606	WS	Under Riparian Right - Need to acknowledge RESIDUAL IMPACT to landowners in downstream VFR.	ER	100	5.1	0	Only one riparian landowners has been identified as being potentially affected downstream of the Wabageshik Rapids project. This landowner has provided comment to which Xeneca has replied extensively. All concerns raised have been addressed and Xeneca has offered the following project modifications: Moved project location upstream to avoid visual impacts Agreed to noise testing and abatement program if required Minimized water level fluctuation in embayment area Committed to minimum water level in embayment area Committed to provide water supplies from above project location during construction Modification to docking system Ongoing water quality and quantity monitoring programs	

1610	WS	Under Spanish / Vermillion WMP - Will need concurrence from Vale and Domtar that their concerns have been adequately addressed.	ER	101	5.1	0	Xeneca is aware that a consent or MOU from Domtar and Vale is required for the Location Approval process. Xeneca is working earnestly on this topic with those companies. Extensive project data has been shared with both parties. To date, we do not have the consent. However, this consent is not required for the EA process.	
1611	WS	Under Enjoyment of Property - There will be a clear RESIDUAL IMPACTS to the landowners immediately downstream.	ER	102	5.1	0	Very minimal due to level fluctuation controls	
1614	WS	Under Aesthetic Image of Surrounding Area - What about view of dam and loss of rapids a natural feature valued by many. Clearly a RESIDUAL IMPACT.	ER	103	5.1	0	Correct. TX	
1613	WS	Under Public Safety (impact of ops on navigation & recreation) - Unless access is restricted at Graveyard Rapid peaking will present a RESIDUAL RISK to public safety.	ER	103	5.1	0	Minimal downstream of graveyard rapids	
1612	WS	Under Public Saftey (ice conditions) - RESIDUAL IMPACT. Posting signs will not alleviate concern. Limiting fluctuation will help but again may not eliminate risk.	ER	103	5.1	0	Public Safety is of great concern to Xeneca. To this end, Xeneca will work with MNR in the Plans & Specs process to address the engineering risk of these projects. In the EA, Xeneca has committed to tight constraints on water level fluctuations to minimize risk potential. The official snow mobile route uses a bridge to cross the water in the project area. Consultation with snow mobile stakeholders has been held. The proposed level fluctuations upstream are well within the range of natural level fluctuations. The proposed level fluctuations downstream are within the range of levels typical for the downstream river. However, having considered these aspects, Xeneca concurs with MNR that risk of manmade structures can never be fully eliminated. All reasonable precautions will be taken to minimize public risk.	
1618	WS	General operating constraints stated in this section are inadequate. Examples - levels not higher or lower than max or min or record +/-5cm beyond natural variance levels not below what would be expected under natural conditions. Additional dialogue and agency concurrence on operating strategy outstanding and outcome will need to be reflected in the ER.	ER	105	5.1.1	0	Xeneca has firmly committed to "follow natural lake level" and info on this matter was provided in our PIC, material included in the EA. We would be pleased to provide information on what this means and how this will be ensured.	
1615	WS	Re: Inundation - Wabageshik Lake is part of the headpond and needs to be clearly acknowledged as such. The suggestion that the decision to relocate the dam a couple hundred meters upstream avoiding high quality spawning area is the reason for the lake coupled approach is ridiculous and should be removed. Without the +/- 5cm on the lake there would be no potential to peak and that is clearly the reason.	ER	105	5.1.1	0	We provided the rational; any suggestion about hidden motives is offensive.	
1620	WS	Re: Aquatic Habitat - Need some detail around compensation plan. Cannot claim no or even low effect with some vision on this front.	ER	106	5.1.3	0	A preliminary compensation plan is in development for the final EA	

1619	WS	Re: Flow Effects - No discussion of erosion concerns downstream where fluctuations will be much greater and more abrupt than on lake.	ER	106	5.1.2	0	Clarification will be provided in final report. Xeneca is preparing a site specific erosion memo report plan which will be included in final report.	
1622	WS	Re: Mitigation - Cannot claim that design avoids significant impact to upstream habitat when 14,800 m2 of high quality spawning habitat is being flooded and fundamentally altered.	ER	107	5.1.3	0	The final ER will acknowledge a significant residual impact on fish habitat, and indicate Xeneca's intention to construction compensatory fish habitat. A preliminary fish habitat compensation plan will also be included with the final ER.	
1623	WS	Re: Fish Entrainment / Impingement - Design needs to consider swim speeds of a wider range of species in the system (e.g. smallmouth bass).	ER	107	5.1.6	0	We will consider Smallmouth bass swimming speeds in addition to the other species proposed.	
1624	WS	Re: Navigation - Low flows and intermittent ops do not only occur during the winter but summer as well during peak recreational period. This section needs to acknowledge loss of canoe / kayak opportunity thu loss of rapid feature and identify potential safety concern for boaters below GS (depends on environmental flow peaking flow and ultimately the range between the 2 extremes).	ER	109	5.1.7	0	No recreational use of Wabageshik rapids determined through public consultation. Most use occurs at Graveyard rapids. Will revise discussion in report to reflect public consultation results and resolutions.	
1626	WS	Re: Private Property - The commitment that max upstream operating level will not exceed pre-construction high water mark and that backwater effect will not exceed natural high water mark may not be sufficient to address the concerns of shoreline property owners.	ER	110	5.1.9	0	Our PIC indicated potential very small changes to levels in Wabageshik Lake. Also, mapping was provided to show this.	
1627	WS	Re: Land Use - Discussion should acknowledge tourism / recreation emphasis for G2033.	ER	112	5.1.13	0	Noted. The section will be reviewed and revised for the final ER.	
1629	WS	Re: Canoeing / Kayaking - The recreational values of the site revolves around the fast water features at Wabageshik Rapids. Need to acknowledge loss of this opportunity.	ER	113	5.1.16	0	No recreational use of Wabageshik rapids determined through public consultation. Most use occurs at Graveyard rapids. Will revise discussion in report to reflect public consultation results and resolutions.	
1631	WS	Re: Fishing - Will be impacted by peaking ops from GS to Graveyard Rapid. Not sure how one can suggest an improvement to navigation thru peaking. Re: Boating / Canoeing - Might be able to suggest improvement in lake via higher and more stable water levels but there will clearly be a negative impact thru loss of rapid feature and variable flow in VFR.	ER	114	5.1.21	0	No recreational use of Wabageshik rapids determined through public consultation. Most use occurs at Graveyard rapids. Will revise discussion in report to reflect public consultation results and resolutions.	
1632	WS	Re: Climate Change - Is there not a risk of increasing periods of drought and less precipitation / river flow? This would decrease generation potential increase intermittent ops and associated impacts.	ER	118	5.4.7	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible	
1634	WS	Table 6 Under Water Quality (potential impact on effluent treatment at Espanola) - Commitment to RoR during drought conditions will need to be further defined. Ultimately we will require written concurrence from Domtar that their concerns have been adequately addressed.	ER	119	6	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible	

1636	WS	Table 6 Under Water Quality (downstream fluctuation and suspended sediment) - Acknowledge concern regarding sediment laden with heavy metals. Ultimately the significance of this effect depends on the range and rate of flow variation which has yet to be agreed upon.	ER	120	6	0	Acknowledged, impact assessment will be reviewed and revised in discussion with MNR I as necessary/possible	
1638	WS	Table 6 Under Fish Habitat - Impact of modified operations on spawning could be a Significant Residual Effect (not if RoR to June 30th).	ER	122	6	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible	
1637	WS	Table 6 Under Fish Habitat - Loss of habitat thru inundation is a Significant Residual Effect.	ER	122	6	0	The final ER will acknowledge a significant residual impact on fish habitat, and indicate Xeneca's intention to construction compensatory fish habitat. A preliminary fish habitat compensation plan will also be included with the final ER.	
1641	WS	Table 6 Under Fisheries - As per comments regarding fish habitat and passage there will likely be a significant residual effect regardless of compensation measures.	ER	123	6	0	The final ER will acknowledge a significant residual impact on fish habitat, and indicate Xeneca's intention to construction compensatory fish habitat. A preliminary fish habitat compensation plan will also be included with the final ER.	
1639	WS	Table 6 Under Fish Habitat - Impact of modified ops on fish and benthic invertebrate habitat in VFR is a Significant Residual Effect.	ER	123	6	0	The final ER will acknowledge a significant residual impact on fish habitat, and indicate Xeneca's intention to construction compensatory fish habitat. A preliminary fish habitat compensation plan will also be included with the final ER.	
1645	WS	Table 6 under Fish Entrainment / Impingement - Not sure how this effect can be ranked Not Significant when it has yet to be evaluated and discussed with DFO.	ER	123	6	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible	
1640	WS	Table 6 Under Fish Migration - Barrier represents a significant residual effect relating to both upstream and downstream fish movement.	ER	123	6	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible	
1642	WS	Table 6 under Erosion (related to operation) - Do not believe erosion concern within downstream VFR was adequate evaluated.	ER	124	6	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible Clarification will be provided in final report. Xeneca is preparing a site specific erosion memo report plan which will be included in final report.	
1643	WS	Table 6 under Recreational Use at Wabageshik Rapids - Positive Effect?? Did I really read this? Clearly loss of rapid feature and variable flows below GS represent a significant negative residual effect.	ER	125	6	0	No recreational use of Wabageshik rapids determined through public consultation. Most use occurs at Graveyard rapids. Will revise discussion in report to reflect public consultation results and resolutions.	
1646	WS	Re: Other Water Control Structures - Need to also acknowledge pre-existing impacts from Big Eddy High Falls and Nairn Falls as they affect the same aquatic system and same fish populations	ER	129	7.1	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible	
1648	WS	Re: Access Roads - The road referenced is not related to this site (cut and paste error?).	ER	130	7.1	0	Reference will be corrected for final ER	

1651	WS	Re: Flow and Inundation - Clearly there will be cumulative effects on fish populations below the proposed GS in combination with pre-existing Vale and Domtar facilities / operations.	ER	130	7.2	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible	
1653	WS	Re: Alteration / Destruction of Fish Habitat - Again there will be cumulative effects with pre-existing perturbations on this highly altered system. For all we know additional habitat alteration and flow modification could push sturgeon over the brink.	ER	131	7.2	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible	
1652	WS	Should be Spanish not Serpent WMP.	ER	131	7.2	0	Reference will be corrected in final report	
1654	WS	Re: Shoreline Erosion - Erosion survey did not cover the downstream VFR where greatest fluctuation will occur.	ER	134	8.2	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible Clarification will be provided in final report. Xeneca is preparing a site specific erosion memo report plan which will be included in final report.	
1658	WS	What about commitment re: Domtar effluent treatment. Need written concurrence from Domtar that concern has been adequately addressed and agreement re: RoR in drought conditions needs to be defined in the operating plan.	ER	137	10	0	Xeneca is aware that a consent or MOU from Domtar and Vale is required for the Location Approval process. Xeneca is working earnestly on this topic with those companies. Extensive project data has been shared with both parties. To date, we do not have the consent. However, this consent is not required for the EA process.	
1657	WS	Under Facility Ops - Should be Spanish not Serpent WMP.	ER	137	10	0	Reference will be corrected in final report	
1660	WS	As per comments re: Sections 5 6 and 7 there are many additional residual effects to be considered some of which cannot be classified as insignificant and will add to existing perturbations on the system (i.e. cumulative).	ER	141	11	0	The impact assessment and impact assessment criteria are being reviewed as part of the revisions to the final report and will be revised as appropriate based on discussions with agencies undertaken through the report draft review.	
1625	WS	Re: Public Safety - Need to acknowledge potential safety concern for boaters below GS as per comment on Section 5.1.7.	ER	109 & 110	5.1.8	0	Through stakeholder consultation it has been determined that boater access to the 200 metre section of river below Wabageshik GS is difficult and limited during the year. Warning signs, safety booms and other safety precautions will be put in place following a full qualified third party safety audit of the facility.	
1628	WS	Re: Fishing - Recreational angling activity will likely be impacted by peaking operation over the long term.	ER	112 & 113	5.1.14	0	We acknowledge this concern. The final ER will acknowledge a significant residual impact on fish habitat, and indicate Xeneca's intention to construction compensatory fish habitat. A preliminary fish habitat compensation plan will also be included with the final ER. We anticipate continued discussions with MNR and DFO to achieve an acceptable plan for mitigation and compensation, including the maintenance of recreational fishing as part of that discussion. The impact assessment will then be reviewed and revised for final according to the outcome of discussions.	
1630	WS	Re: Aesthetics - Outright loss of this natural heritage feature (rapids) represents a clear long term aesthetic impact.	ER	113 & 114	5.1.18	0	Efforts have been taken to minimize the visual impact of this facility. Although it represents a change to the natural environment the area holds many such opportunities for viewing and enjoying fast water riverine habitat. Xeneca is working with	

							stakeholders to determine if recreational amenities can be developed in conjunction with the project.	
1633	WS	Re: Table 6 - Refer to comments regarding analysis of project effects presented in Table 5. There are many issues understated that need to be brought forward as Residual Effects. Some are specifically referenced below others are only noted in review of Table 5 but need to be addressed in both tables (eg. shoreline dependant species navigation riparian rights fishing aesthetics saftey etc.).	ER	119 - 128	6	0	Table will be revised for final ER based on updated discussions with MNR and other agencies as part of the draft review	
1649	WS	Re: Assessment of Cumulative Effects - The various effects and issues noted as understated in Table 5 and needed to be carried forward to Table 6 also need to be carried forward and evaluated in this section.	ER	130 - 132	7.2	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible	
1655	WS	Will need effectiveness monitoring for habitat compensation and perhaps biological monitoring for sturgeon walleye and pike to ensure fisheries objectives are met.	ER	133 & 134	8.2	0	Xeneca is preparing a monitoring plan documenting all identified/recommended monitoring requirements which will be included in the final ER.	
1659	WS	Must admit moving toward completion of EA with so many outstanding commitments would seem risky. Many of the outstanding issues to be addressed should be part of the EA process.	ER	136 - 139	10	0	Acknowledged. Xeneca appreciates the efforts of the Ministry and other reviewers to highlight potential stumbling blocks to the successful completion of the EA process and is committed to the resolution of outstanding issues prior to the notice of completion.	
1515	WS	Note: Nickle copper and aluminum PWQO exceedances above and below site. This would seem to suggest that public concern re: mobilization of heavy metals from sediments thru peaking are credible and should be addressed in the EA.	ER	14 & 15	2.8.2	0	High background concentrations of nickel, copper and aluminum at Wabageshik rapids are related to historical mining and smelting operations. The Vermilion River watershed has been highly impacted from the copper-nickel sulphide smelting and mining in the greater Sudbury area, and metals concentrations in water at the Wabageshik Rapids site are likely from upstream sources carried to the site in dissolved or suspended solid form.	
1525	WS	Lake Sturgeon spawning surveys completed by NRSI in '2011' not '2012'.	ER	19 & 20	2.9.4	0	Reference will be corrected.	
1570	WS	General Comment - Additional dialogue and agency concurrence regarding proposed operating strategies is pending. As currently proposed downstream environmental flows are too low representing extreme drought conditions and the overall range or amplitude of daily fluctuation during periods of intermittent ops is too high. We will also require confirmation as to whether proposed pulse operation will occur once per day or multiple times per day. Daily water level / velocity fluctuation certainly has potential to affect system productivity (consistently wetted habitat substrate modification related to erosion & sediment transport loss of vegetation dewatering and/or dislodging of	ER	48-59	3.6 (3.6.1 - 3.6.6)	0	Xeneca will continue dialogue with agencies to reach consensus on potential environmental impacts and associated operational constraints. These operational constraints will be documented in an updated operational plan which will be included in the final environmental report.	

		benthic invertebrates reduced cyprinid production ice scour stranding of fish etc.). We acknowledge Xeneca's commitment for 'true' run of the river ops during the walleye spawning / incubation period but also need to fully cover pike spawn & sturgeon incubation & drift and we need to consider impacts at other times of the year. Effects on the full range of habitat types / channel profiles (e.g. fast water habitats & wetland areas) need to be considered in order to inform decisions regarding appropriate operating strategies. We do acknowledge that some progress is being made on this front and look forward to additional dialogue.						
1585	WS	No reference to the key fisheries / hydrology concerns tables by MNR to date although there is reference to minutes of meetings in App C. Seems odd considering that key DFO and MOE concerns have been articulated in this section of the document.	ER	67 - 69	4.3.2	0	Acknowledged, issues and resolutions text will be reviewed and revised for final as necessary/possible	
1594	WS	Re: Table 5 - Many of the key issues evaluated are misrepresented / understated. Evaluation for the following individual areas to be reconsidered.	ER	87 - 104	5.1	0	Impact assessment and mitigation measures will be revisited and revised as required following discussions with agencies undertaken as part of the draft review process.	
1597	WS	Under Terrestrial Wildlife & Habitat Linkages - Deer movement corridor / crossing to be considered as SWH as it is a significant concern. Impact and mitigation for deer crossing relates to range and rate of downstream fluctuation.	ER	92 & 93	5.1	0	We agree that this area likely has an important role in deer movement and have determined that the deer crossing is confirmed SWH for Deer Movement Corridor. The operating plan will be further developed to have consideration for potential impacts to deer crossing during the peak times associated with overwintering migration. In addition, the potential impacts on the deer crossing as SWH will be assessed in the final ER. Monitoring of the deer crossings will also be included in the consolidated monitoring plan provided with the final ER.	
1479	WS	Re: Ecology in Executive Summary - Reports no SWH within vicinity of project - see comments re: Natural Environment Report	ER	iii	0	0	Will be revised for final report	
1491	WS	Re: Negative Project Effects in Executive Summary - Suggesting that it may be possible to 'preserve or enhance recreational value at Wabageshik Rapids is ridiculous. Need to be clear and up front about proposed tradeoffs.	ER	ix	0	0	Recreational values at Wabageshik rapids is related to angling, primarily for walleye. Xeneca has recpognized that the area serves as a primary spawning site and as such moved it facility upstream to reduce impacts. Further, Operational restrictions during spring spawning periods will further reduce impacts on the recreational fishery. In terms of enhancements, Xeneca has indicated willingness to provide boat launch facilities, rest areas and is working with recreational users and agencies to determine if mitigation measures such as the creation of spawning shoals and fish stocking programs can enhance the fishery. Xeneca seeks clarity from MNR on why statement in draft ER is considered "ridiculous."	
1480	WS	Re: Operating Strategy in Executive Summary - Confusing reports inundation of 600m but then references lake coupled design and inundation area that includes the lake. Clarify.	ER	vi	0	0	Will be revised for final report	

1481	WS	Re: Operating Plan in Executive Summary - Downstream ZOI reported as confluence with Spanish with modelled 20cm fluctuation in headpond beyond confluence. I note the compliance commitment of +/- 5cm which may ensure minimal impact but can we say no influence.	ER	vi	0	0	Discussion with regulators to clarify a reasonable and justifiable extents to the ZOI will be held through the draft review period and text will be revised for final report	
1483	WS	Re: Consultation in Executive Summary - In addition to noted Vale tailrace concern Domtar has expressed concern re: effluent assimilation at low flow.	ER	vii	0	0	Xeneca is aware that a consent or MOU from Domtar and Vale is required for the Location Approval process. Xeneca is working earnestly on this topic with those companies. Extensive project data has been shared with both parties. To date, we do not have the consent. However, this consent is not required for the EA process.	
1487	WS	Re: Negative Project Effects in Executive Summary - Reports environmental flow of 2.3 to 2.6cms and 'controlled ops' during spawn. Accept that this is a first cut at the ER but for the record there has been no agency concurrence re: operating parameter during or outside of spawn / incubation.	ER	viii	0	0	Xeneca would welcome further discussion. Some follow up discussion has occurred over recent weeks since the agency draft EA was issued. Xeneca would like to achieve consensus with the agencies on this topic.	
1484	WS	Re: Negative Project Effects in Exccutive Summary - Erosion survey did not appear to cover either the full extent of upstream fluctuation or downstream VFR (i.e. only appears to address 600m upstream inundation area). Erosion within the balance of downstream VFR is a concern worthy of attention given extent of predicted daily fluctuation. While the significance of a +/- 5cm daily fluctuation on shoreline / habitat in lake may be low it is not really appropriate to dismiss thru comparison to historic 'seasonal' fluctuation.	ER	viii	0	0	Xeneca has commited to a very tight operating range of +/- 5 centimeters. In terms of amplitude, Wabagishik Lake fluctuates approximatley 1.5 meters (150 centimeters) during year. In terms of frequency, the shoreline experiences amplitudes of 10 centimeters to 30 centimeters due to wave action every few seconds. Xeneca believes that this clearly shows that a fluctuation of +/- 5 centimeters once per day is not significant.	
1488	WS	Re: Negative Project Effects under Executive Summary - Discussion regarding public safety does not identify potential safety concern to recreational users in downstream VFR (i.e. what about impact of abrupt flow modification on recreational boaters between GS and Graveyard Rapids and on ice conditions below Graveyard Rapids).	ER	viii & ix	0	0	No recreational use of Wabageshik rapids determined through public consultation. Most use occurs at Graveyard rapids. Will revise discussion in report to reflect public consultation results and resolutions.	
1493	WS	Re: Cumulative Effects in Executive Summary - Need to acknowledge that downstream effects of facility and ops will be additive to the impact of Vale ops on Spanish above confluence with Vermillion and Domtar ops at Espanola. The is a highly altered system and limitation of fisheries values is already evident. Another development can only add to overall cumulative impact on the system.	ER	xi	0	0	See response to cumulative effects on Major Comments and Responses file.	

1492	WS	Re: Residual Effects in Executive Summary - The suggestion that there will be no significant residual effects does not seem at all defensible given inundation of rapids and proposed daily peaking ops. Especially with the number of outstanding matters to be resolved (i.e. compensation operating plan etc.).	ER	xi	0	0	Acknowledged, impact assessment will be reviewed and revised for final as necessary/possible. Significance of residual effects may be revised depending on resolution of issues through draft review.	
1494	WS	Re: General Commitments in Executive Summary - Note that habitat compensation requirement is acknowledge; however there is no plan in place not even conceptual. Obviously this limits comfort level regarding the magnitude of residual impacts.	ER	xii	0	0	A preliminary habitat compensation plan would be included in the final ER.	
1495	WS	Re: Operational Commitments in Executive Summary - Commitment to update the operating plan in consult with agencies needs to be met prior to EA completion as proposed ops present significant environmental impact.	ER	xii & xiii	0	0	Xeneca would welcome further discussion. Some follow up discussion has occurred over recent weeks since the agency draft EA was issued. Xeneca would like to achieve consensus with the agencies on this topic.	
1496	WS	Re: Operational Commitments in Executive Summary - Integration into SVRWMP needs to be further explored given identified implication to Vale and Domtars ops. Written concurrence by these parties will be required.	ER	xiii	0	0	Xeneca is aware that a consent or MOU from Domtar and Vale is required for the Location Approval process. Xeneca is working earnestly on this topic with those companies. Extensive project data has been shared with both parties. To date, we do not have the consent. However, this consent is not required for the EA process.	
1497	WS	Re: Operational Commitments in Executive Summary - Among other required modifications to operating plan run-of-river ops should cover incubation and disperals periods for both walleye and sturgeon in addition to pike walleye and sturgeon spawning windows.	ER	xiii	0	0	Xeneca would welcome further discussion. Some follow up discussion has occurred over recent weeks since the agency draft EA was issued. Xeneca would like to achieve consensus with the agencies on this topic.	
1504	WS	Re: Consultation Commitments in Executive Summary - Note intent to continue dialogue with FN stakeholders anglers etc. to address issues. Should issues stemming from consultation not be addressed as a component of the EA rather than after statement of completion.	ER	xiii & xiv	0	0	Xeneca views consultation with Aboriginal Communities as an ongoing process. Xeneca has engaged communities since notifying them of receipt of the FIT contracts and providing the Project Descriptions.	
1508	WS	Re: Further Investigations in Executive Summary - What are enhanced erosion and reservoir sedimentation studies? Note: earlier comment regarding inadequate scope of erosion study (i.e. very little of downstream VFR evaluated).	ER	xiv	0	0	Actually, the Xeneca engineering team has examined the entire shoreline in the upstream and downstream area. We would be pleased to review the findings with the agencies. However, in the context of the tight level restrictions that Xeneca has already agreed to, there is no geotechnical concern.	
1505	WS	Re: Further Investigation in Executive Summary - Fully documenting impacts associated with inundation and flow modification should be part of EA not deferred. Need to clarify - does this statement refer to unanticipated impacts or a commitment to monitor expected impacts or what?	ER	xiv	0	0	Clarification will be provided in final report. Xeneca is preparing a consolidated monitoring plan which will be included in final report.	

1511	WS	Re: Conclusion in Executive Summary - Change there 'may be' requirement for Section 32 & 35 Fisheries Act approvals to there 'will be'.	ER	xv	0	0	Acknowledged.	
1510	WS	Re: Conclusion in Executive Summary - Statement that there will be no signficant residual effects and net environmental benefit is not defensible. The only valid environmental benefit being green energy.	ER	xv	0	0	Will be revised based on further discussions as part of draft review.	
	CG	Suggest including the word "proposed" before site name each time it is referenced. For example, executive summary page 3 paragraph 3, "The Wabageshik GS is located..." should be "the proposed Wabageshik GS is located...". The word proposed is often but not always included.	ER		Exec Summary		Acknowledged, will be considered for final ER.	
	CG	Transmission lines. Please note that MNR staff have reviewed this ER with the assumption that transmission lines are part of the project being assessed. Comments have been scoped accordingly. Through previous discussions and an email to MNR dated August 31, 2012, Xeneca staff have suggested that it does not plan to assess the proposed transmission lines through the waterpower Class EA framework; rather, Xeneca planned to complete the assessment of transmission lines independently in time for MNR's permit and approval process, at which time MNR would follow its own decision-making framework with associated environmental screening. Section 3.4.1 and other parts of the draft ER indicates that transmission corridors are part of the project being assessed. We suggest that prior to submitting a final ER this be clarified and that Xeneca request a discussion with MOE and MNR about the most suitable approach.	ER	42	3.4.1		The best available information regarding transmission routes is provided for the information of the reviewer. As these routes are not finalized impact assessment cannot be completed at this time. The Class EA process does not require the assessment of transmission lines below 115kV. Xeneca acknowledges that the routes will be assessed through MNR's decision making framework during permitting/approvals.	
	CG	If there is a chance any authorizations will be required under the Fish and Wildlife Conservation Act (FWCA) for effectiveness monitoring or other purposes, suggest noting it as a possibility here.	ER	135			Acknowledged, revised for final	
	CG	Species of Conservation Concern should be Species of Special Concern	ER		Table 5		Acknowledged, revised for final	
	CG	Reference made to "vulnerable" species twice. Likely should be "Species of Special Concern" if that was intent.	ER	17			Acknowledged, revised for final	
	CG	Prior to submitting Final ER, please ensure that all agency meeting minutes are included. Did not see the EA Coordination Meeting minutes dated Feb 8, 2011, in Appendix C.	ER		Appendix C		All available correspondence/records will be included in the final report.	

	CG	Please ensure that the draft July 19 agency meeting minutes are replaced with the final version in time for final ER. Current version does not reflect my comments on draft minutes.	ER		Appendix C		All available correspondence/records will be included in the final report.	
	CG	I suggest reviewing Bullets 4-9 and considering revisions to better clarify the process for the public so that they understand what opportunities they have to review the report, provide comments, attempt to resolve issues, and submit a Part II Order request to the MOE. The second last bullet suggests that the public will have the opportunity to review, comment and attempt to resolve issues before Notice of Completion is issued. From the schedule Xeneca has provided to MNR I do not believe that is the case. Perhaps this bullet was meant to say Statement of Completion.	ER	7	1.4.5		Acknowledged, revised for final	
	CG	It is correct that under current legislation the proposed transmission lines do not have to be screened through MNR's Class EA for RSFD projects. However the trigger for change was an amendment to Reg. 334 under the EA Act, not Reg 116. Suggest replacing the last sentence to "However, subsequent clarity on regulatory amendments resulted in the MNR's Class EA for RSFD Projects not applying to the proposed transmission lines. Amendments were made to Ontario Regulation 334 under the EA Act (s 15.0.1) that exempt any undertakings by or on behalf of the Crown that are being carried out only for the purposes of implementing a renewable energy project. Waterpower projects continue to be subject to the requirements of the EA Act under Ontario Regulation 116/01 with the OWA Class EA for Waterpower Projects as a primary planning process; however, the proposed transmission lines fall into Category A under Reg. 116 and therefore do not have any EA Act requirements. As the Ministry responsible for managing most Crown resources through disposition, approval and permits under a number of statutes, MNR has indicated that it still requires information to support decisions related to the dispositions, approvals or permits required for transmission line projects."	ER	5	1.4.1		Acknowledged, wording will be reviewed and revised for final as necessary	
	CG	Appendix C - For ease of review by agencies, public and Aboriginal Communities, I suggest having the column headers reprinted at the top of each page.	ER		Appendix C		Acknowledged, formatting will be reviewed and revised for final as necessary/possible	
	CG	I suggest referring to Appendix C here for ease of review by the public, agencies and Aboriginal Communities.	ER	6	1.4.3		Acknowledged, reference (to appendix B) added	

	CG	Review of the HEC-RAS modelling output indicates that the proposed operating plan may cause a reduction in head at the Lorne Falls Generating Station upstream. The proposed pattern of flow in the downstream variable flow reach may reduce generation potential at the Domtar GS downstream. Applicants who are applying for approval under the LRIA need to take into account the effect that the proposed work will have on the rights of riparian owners. Applicants must make every effort to protect the interests of land owners who will be impacted by the proposed works. For instance, where temporary or permanent flooding of land will occur, or riparian rights will be negatively impacted, a formal land tenure document, consent or release from the affected owners must be obtained. Applicants are advised to seek legal advice in this regard. In situations where the impact of a proposed work is expected to be minimal, applications may be approved under the LRIA if the applicant obtains the consent of the affected property owner(s). Pending the outcome of additional analysis, MNR will require some form of formal or written consent from these operators before it can contemplate any approvals under the LRIA.	ER				Xeneca recognizes that any existing users on the Vermilion River are subject to the existing Water Management Plan. Xeneca, as a proposed new user on the Vermilion River system would be required to comply with the existing Water Management Plan and would be required to negotiate with other users of such potential impacts. Xeneca has been in dialogue with Vale in respect of any proposed impact on the tailrace at the Lorne Falls site.	
	CG	"A distance of approximately 4 km separates the headpond of most-upstream Espanola dam and the location of the proposed Wabageshik Rapids facility." For clarity, I suggest adding "upstream limit of the" headpond of most upstream Espanola dam, if that is what was intended.	ER	58			Acknowledged, wording will be reviewed and revised for final as necessary	

	CG	Post-construction Monitoring. Paragraph 2 in Section 1.4.4 mentions that recommendations for ongoing monitoring to confirm the short-term or long-term effects are included within the ER, and that environmental monitoring will be subject to regulatory approval at the permitting stage in advance of construction. Section 8.1 and 8.2 provides some additional information, but overall does not adequately address MNR's expectations monitoring as associated with MNR's mandate and permit and approval requirements. Comments on topic-specific monitoring needs are provided throughout this submission from MNR, based on MNR's review in accordance with its mandate. 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. Post-construction monitoring for these purposes will become requirements of various permits and approvals issued by MNR (e.g., approval of the plan for operations as per S23.1 of LRIA). We suggest that they should be included in ER for review and comment by the public and Aboriginal communities.	ER	7, 132-133	1.4.4, 8.1 and 8.2		Clarification will be provided in final report. Xeneca is preparing a consolidated monitoring plan which will be included in final report.	
	CG	Post-construction Monitoring (continued). 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: 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?	ER	7, 132-133	1.4.4, 8.1 and 8.2		Clarification will be provided in final report. Xeneca is preparing a consolidated monitoring plan which will be included in final report.	

	CG	Section 9, Table 7, should reference MNR's Site Release Policy and the need for Applicant of Record status. MNR notes that Xeneca has not completed the site release process for this site and does not have Applicant of Record Status. As previously communicated, MNR is committed to participating in the proponent-led EA while Xeneca concurrently works through the site release process. We encourage proponents to complete site release in advance of conducting their EA. MNR is reviewing the draft ER with respect to MNR's mandates and to clarify expectations for MNR's permit and approval process. It is expected that proponents will have Applicant of Record status before MNR issues any approvals or permits required to support the waterpower project.	ER	135	9		Text will be inserted explaining the site release process and how it relates to the EA and permits/approvals process. Xeneca acknowledges the requirement for AoR status prior to the initiation of permits and approvals.	
	CG	With respect to transmission lines, MNR Fire Program staff advise to ensure that proponents are aware of and document requirements for clearing areas under transmission lines, and assure maintenance of these areas to ensure that unwanted forest fires are not started as a result of trees falling/growing into the power lines. Consideration of the amount of cleared land required (permanently) for transmission can often impact environmental significance and should be considered and documented in the ER.	ER (and Annex VI)	42	3.4.1		Transmission lines are not within the scope of the waterpower EA, however, Xeneca will ensure that this information is considered and addressed in support of MNR's alternative decision-making framework.	
	CG	With respect to clearing vegetation, MNR Fire Program staff advise to ensure that proponents are aware of and account for additional requirements regarding work modifications (or potential work suspension) as a result of forest fire hazard when clearing/harvesting under an overlapping licence.	ER	46	3.5.1		Noted. Xeneca will comply with any specific requirements for timing restrictions or work modifications as a result of forest fire hazard when clearing/harvesting line or road corridors under an overlapping license.	
	CG	Proponents should be aware of Forest Fire Prevention Act requirements during both construction and operation of the facility (fire prevention as well as debris management requirements, need for permits, etc… if planning to burn debris).	ER		3.5 & 3.6, Table 7		Noted	

	CG	Second paragraph states that, "The proponent is required to determine the flows required to maintain aquatic ecosystem integrity in the project's zone of influence". This is true, but is not restricted to aquatic ecosystem. When contemplating decisions under the LRIA, the MNR will consider how the proposed location, design and operations of the dam will impact our ability to meet all purposes of the LRIA, as well as considering other applicable legislation such as the ESA and PLA. The purposes of the LRIA are to provide for: a. the management, protection, preservation and use of the waters of the lakes and rivers of Ontario and the land under them; b. the protection and equitable exercise of public rights in or over the waters of the lakes and rivers of Ontario; c. the protection of the interests of riparian owners; d. the management, perpetuation and use of the fish, wildlife, and other natural resources dependent on the lakes and rivers; e. the protection of the natural amenities of the lakes and rivers and their shores and banks; and f. the protection of persons and of property by ensuring that dams are suitably located, constructed, operated and maintained and are of an appropriate nature with regard to the purposes of clauses (a) to (e).	ER	15	2.8.1		Acknowledged	
	CG	Note that throughout all documents the site and lake are inconsistently referred to as Wabageshik and Wabageshik.	All	All			For the purposes of the main report, the Lake is referred to as Wabageshik and the site/project is referred to as Wabageshik. It may be difficult to reach consistency through all reports at this stage.	

	CG	The site operating strategy described in ER does not seem to reference expected seasonal variation in operations and Xeneca's proposed commitments to mitigate seasonally-specific effects that have been discussed at agency meetings. For example, I do not see any reference to Xeneca's proposal (from July 2012 meeting with MNR, MOE and DFO) to provide inflows=outflows instantaneously and at all times during the critical spring spawning, incubation, hatch and dispersal periods. The second paragraph under 3.6.1 implies that Xeneca's proposed "modified run of river and intermittent operation depending on the flows present in the river" is proposed year-round. While Annex 1 provides some additional detail on proposed operations, I suggest these details should be included in main report for full transparency and to avoid confusion for agency; public and Aboriginal reviewers. Full disclosure on proposed operations is expected in the ER and throughout the EA process if Xeneca is attempting to meet the intent of WMPing through its EA and to avoid the need for additional consultation at a later time to inform MNR's decisions on LRIA approvals.	ER	49+	3.6.1		Please note that it was stated by Xeneca that the outcomes of the July 2012 meeting would not be in the agency draft EA document. We apologize for any inconvenience or confusion that this may have caused.	
	CG	I do not see any reference to the time period within which storage will occur during Xeneca's proposed "modified run-of-river" operations. Over what time period will total inflows=outflows? In previous discussions (perhaps on other sites), Xeneca clarified that storage would not occur for more than 24 hours, meaning total inflows would = total outflows over a 24 hour period, even on weekends and holidays when power demand is lower. MNR requires clarity on this type of operating detail (temporal period of storage) before it can fully consider and comment on the adequacy of Xeneca's impact assessment and proposed mitigation, and before it can contemplate issuing permits and approvals for the project. This type of clarity should be provided to the public and Aboriginal communities in the final ER to help meet the intent of LRIA S23.1 planning through the EA. Note that we recognize that Xenca-agency discussions on a mutually agreeable operating plan (as a starting point for consultation) are ongoing in a parallel process to this ER review and we can likely sort out these details during discussion).	ER	50-51	3.6.1		Xeneca has firmly committed that the total daily inflow will equal the total daily outflow. Any daily operation will only apply to shifting flow from one part of the day to another part of the day. No long term storage (i.e. no storage over 24 hours) is contemplated or proposed. We will try to clarify this further in the Operations Plan that will be released to the public as part of the EA.	

	CG	Last two lines on page indicate that under the proposed operating scenario, "When natural flows exceed the amount of water that can be passed through the turbines, excess water would be diverted through/over the dam (spillway). The combined flow of the water passed through the turbine to generate electricity and the water bypassed over the spillway will be equal to the natural flow of the river". What about a scenario where upstream headpond water level has dropped below optimal level for operations? Would Xeneca then not be holding back excess water to refill head pond while also operating at full capacity? If so then the sentence provided in ER may mislead public and Aboriginal reviewers. Perhaps add to scenario that headpond is full.	ER	49			Xeneca has firmly committed that the total daily inflow will equal the total daily outflow. Any daily operation will only apply to shifting flow from one part of the day to another part of the day. No long term storage (i.e. no storage over 24 hours) is contemplated or proposed. The lake level will not be set by Xeneca, instead, Xeneca will follow natural lake level that would occur if Xeneca was not present on the system. We will try to clarify this further in the Operations Plan that will be released to the public as part of the EA. We would be pleased to review the operating proposal in more detail with MNR.	
	CG	I suggest replacing, "These efforts resulted in a mutually agreed upon approach for the development planning and approval process" with, "These efforts resulted in a mutually-agreed upon communications strategy and a single point of contact for Xeneca's questions about process". Also I suggest not referencing the July 19 meeting as the first meeting since there were a number of previous district meetings.	ER	69	4.3.2		Acknowledged, wording will be reviewed and revised for final as necessary	
	CG	The draft ER document should include maps of all areas studied and clarity on what types of studies occurred where. Without this it is difficult for MNR to review and comment on the adequacy of the information provided (including the environment, potential impacts and impact management strategies) as it relates to MNR's mandate, and to provide constructive advice on what is still required to provide for our permitting and approvals process. Section 1.4.2 refers to the "proposed development area", the "project area", and the "site". Through agency discussions wth Xeneca we are aware that the anticipated zone of influence has increased in area through time as Xeneca further ackowledged the desree of system alteration associated with the proposal. Thus it is unclear what studies were completed where, relative to the final proposed ZOI (note: which still requires discussion, see comment elsewhere)	ER	6	1.4.2		Mapping showing where studies have occurred is presented in the respective report in the annexes of the ER. It is agreed that consensus on the projects zone of influence needs to be reached prior to the issuance of the final ER.	

	CG	Through various sections of the ER Xeneca identifies the need to prepare a water management plan in accordance with Section 23.1 of the LRIA. Recent changes have been made to S23.1 of the LRIA that may affect how proponents are expected to plan for the operations and maintenance of facilities in the future. Specifically, the changes enable the MNR to order applicants of S14 and S16 LRIA approvals to prepare a S23.1 plan for the operations and maintenance of a facility. This legislative change may result in changes to the way that LRIA approvals are sequenced and coordinated in the future. The MNR is currently contemplating new policy to reflect this change to the LRIA and to design a new S23.1 planning process that is suited for new facilities. Xeneca may choose to acknowledge this somewhere in their ER.	ER, Annex1	11, 137			Acknowledged, wording will be reviewed and revised for final as necessary. Further clarification will be sought through draft review period.	
	CG	To meet the intent of water management planning through the EA, it is expected that the public and Aboriginal communities will have sufficient opportunity to participate in the planning for the operations of the facility and for the management of flows and levels in the river system. Full transparency should be provided on the boundary of the anticipated ZOI, the degree to which the system is proposed to be altered, any identified potential effects and associated impact management strategies, so that potentially affected individuals can recognize and communicate any concerns. Early in the process, interested parties should have the opportunity to identify existing values and uses that can then be considered when setting objectives and constraints for the plan. 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, to support the LRIA decision making framework.					Public and aboriginal consultation has been thorough and has included the most conservative approach in terms of outline project impacts and effects. All stakeholders have been presented with a fulsome and transparent overview of the project footprint. In all likelihood, the project effects will be less impactful than what has been presented. Since submission of the Draft ER, meetings with local municipal and township councils, as well as individual and group stakeholders has occurred. Meetings with First Nation Communities are also occurring and project information and updates is being shared. Xeneca continues to work with the agencies to define extend of downstream ZOI and expects to have resolution prior to issuance of Notice of Completion.	

	CG	When making decision under LRIA S23.1 the MNR will consider what concerns were raised by the public and Aboriginal communities and how those concerns were considered and addressed during the development of options and selection of the final proposed option for the management of flows and levels. We suggest that further detail should be provided within the final ER on what concerns were received and how they were addressed throughout the planning process. For example, the draft ER reports very little on concerns raised by Aboriginal communities, and the consultation plan indicates that engagement will occur after the Notice of Completion is issued. This is not conducive to meeting the intent of WMPing through the EA since the feedback provided will not be incorporated into the final proposal in final ER.					Xeneca is attempting to work with Aboriginal Communities to solicit their input on the proposed operations. While it is preferable to obtain their input during the EA process, it is not a mandatory requirement for completion of the Class EA. It is noted that through LRIA, Xeneca will be required to conduct additional consultation efforts to incorporate their concerns into the water management planning process.	
	CG	When contemplating a decision under S23.1 of the LRIA the MNR will consider what information was provided to the public and Aboriginal Communities during the consultation opportunities, including how the proposed alteration to the system was described and the extent to which environmental impacts were identified and communicated.					Public and aboriginal consultation has been thorough and has included the most conservative approach in terms of outline project impacts and effects. All stakeholders have been presented with a fulsome and transparent overview of the project footprint. In all likelihood, the project effects will be less impactful than what has been presented. Since submission of the Draft ER, meetings with local municipal and township councils, as well as individual and group stakeholders has occurred. Meetings with First Nation Communities are also occurring and project information and updates is being shared. Xeneca continues to work with the agencies to define extend of downstream ZOI and expects to have resolution prior to issuance of Notice of Completion.	
	CG	For efficient consultation through the EA, we recommend that Xeneca first come to a consensus with agencies on options that are feasible with respect to the associated legislation, then use these options as a starting point for external consultation. Since you are preparing your final ER, we suggest you complete this step before initiating the final public review phase.	Annex I				Note that the most conservative approach was taken regarding public input of effects. If MNR consensus leads to effects that are more significant than what Xeneca has relayed to the public, additional public consultation will be required.	

Danielle Dempsey

From: Kai Markvorsen
Sent: March-20-13 9:23 AM
To: Caitlin Kenny
Subject: FW: Wabageshik Rapid - Residence Time of Pool Below Dam
Attachments: Residence Time of Pool just below Wabageshik Rapid Dam.pdf

---

Kai Markvorsen - Environmental Consultant - (613) 839-1453 x248

From: Nava Pokharel [mailto:NPokharel@xeneca.com]
Sent: March-19-13 6:23 PM
To: Robinson, Bob L. (MNR); Kelly.eggers@dfo-mpo.gc.ca; Cramm, Ellen (ENE)
Cc: Selinger, Wayne (MNR); ryan.stainton@ontario.ca; Stephanie Hodsoll; Kai Markvorsen; Mark Holmes; Grace Yu; Andrew Schiedel; Uwe Roeper
Subject: Wabageshik Rapid - Residence Time of Pool Below Dam

Hi Bob,

In yesterday's teleconference call, there was some concerns expressed on the residence time of the pool just below the Wabageshik Rapid dam for the purposed compensatory flow of 0.5 (m^3/s). I have attached a small analysis on residence time of the pool with this email.

Regards,
Nava

Nava Pokharel (M.Sc., P.Eng.) | Senior Project Manager | **Xeneca Power Development Inc.**
5255 Yonge Street, Suite 1200, North York, M2N 6P4, ON, Canada
Direct: 416 590 3076 | **Main:** 416 590 9362 **Ext** 3076 | **Fax:** 416 590 9955 | **Cell:** 416 524 0323 |

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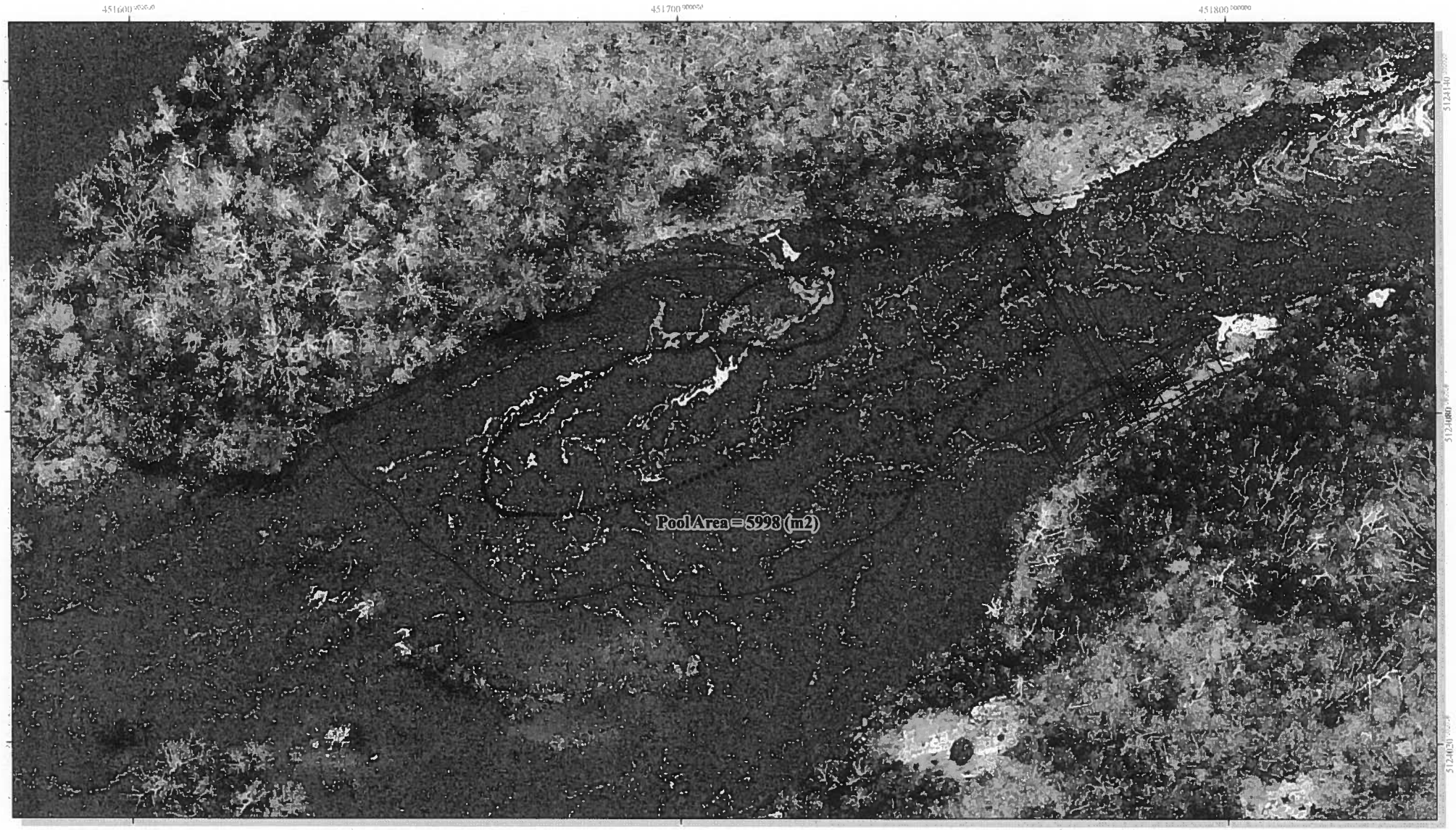
Wabageshik Rapid

Residence Time of the Pool Just Below Dam

Xeneca Power Development Inc.

March 19, 2013



- Bathymetry Points
- Deepest Point
- Wabageshik Dam
- Deep Pool

Avc. depth below tailrace level - 199 - 196.44 = 2.56m

Max. depth below tailrace level - 199 - 193.74 = 5.26m

Produced by N Collard - Mar 19, 2013

0 15 30 60 Meters

ORTECH Power
a division of ORTECH Consulting Inc.

N W E S

Table 1 : Residence Time of Pool just below dam - Wabageshik Rapid Project

Surface Area of the Pool (m2)	Avg Depth Below Tailrace Level (m)	Volume of the Pool (m3)	Compensatory Flow (m^3)	Residence Time (Hr)
5998	2.56	15,355	0.5	8.5

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March 12, 2013

Bob Robinson
MNR Sudbury District
Suite 5
3767 Hwy 69 S
Sudbury ON P3G 1E7

Re: Evaluation of Flow Fluctuations at Domtar Dam due to Wabageshik Rapid GS Operations

Dear Bob,

In the recent meetings with Xeneca, MNR expressed concerns on the flow fluctuations downstream of Domtar Dam at Espanola due to the operation of the Wabageshik Rapid project. This document summarizes the existing flow fluctuations at the Domtar Dam and compares them to the proposed operation of the Wabageshik Rapids project in the Vermillion River upstream.

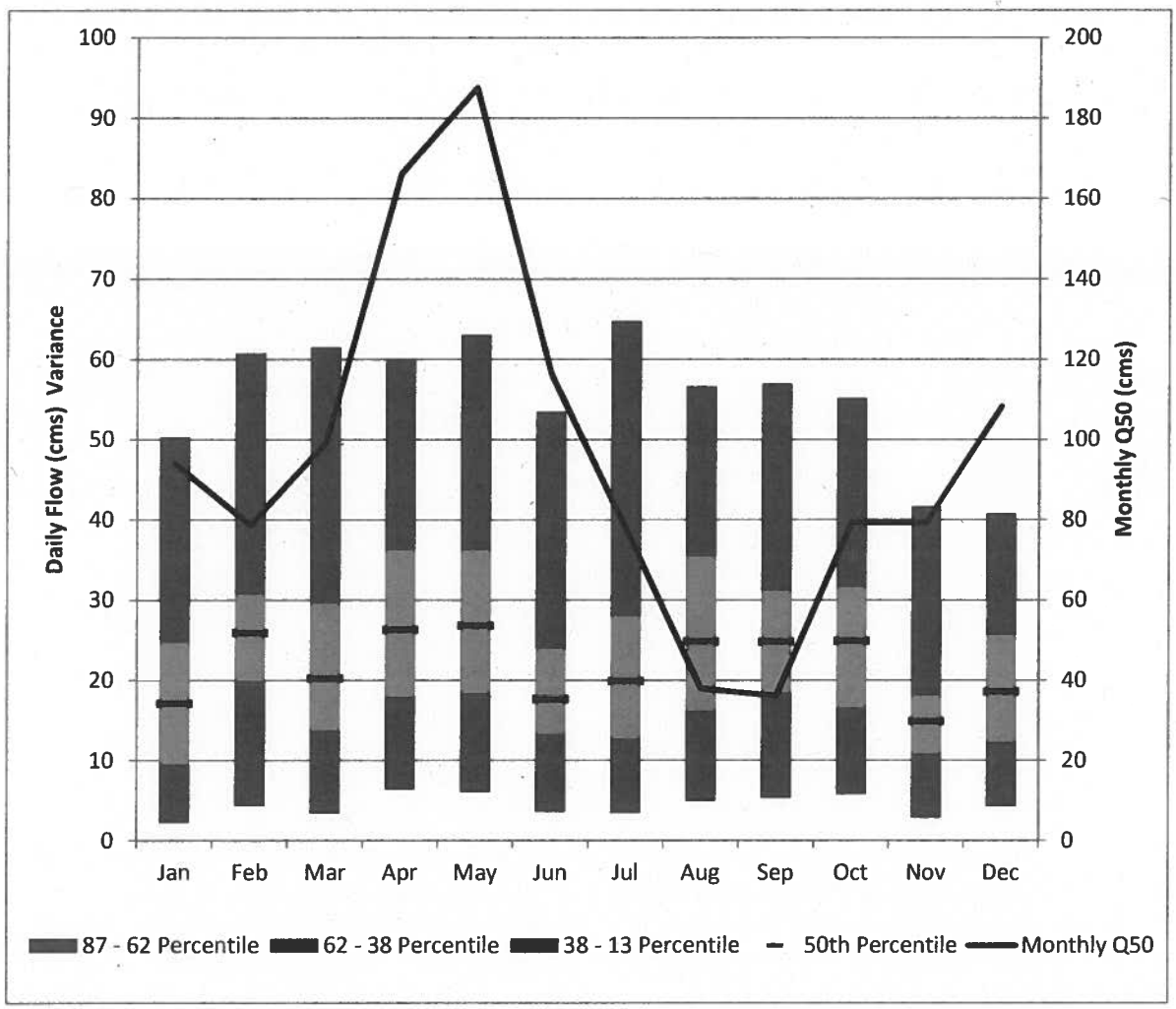
1. Existing Flow fluctuation at Domtar Dam

This analysis is based on the hourly flow data at Domtar Dam at Espanola for the period 2006 to 2012. This hourly flow data is recorded by Domtar. Table 1 and Figure 1 below summarize the existing flow fluctuations at Domtar Dam at Espanola. The table and figure show, on average (50^{th} percentile), in any given month, the daily flow fluctuation at Domtar dam varies from 17 cms to 27 cms. The 13^{th} percentile flow fluctuations, representing daily fluctuations that occur on a significant number of days in any month range from 41 cms to 63 cms. The data clearly show that large flow fluctuations occur downstream of Domtar Dam on a daily basis for every month of the year under existing conditions.

Table 1: Existing Daily Flow Fluctuation in Spanish River at Domtar Dam at Espanola (Flow in CMS)

Flow Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
87 - 62 Percentile	7	16	10	12	12	10	9	11	13	11	8	8
62 - 38 Percentile	15	11	16	18	18	11	15	19	13	15	7	13
38 - 13 Percentile	26	30	32	24	27	30	37	21	26	24	24	15
50th Percentile	17	26	20	26	27	18	20	25	25	25	15	19
87th Percentile	2	4	3	6	6	4	3	5	5	6	3	4
62nd Percentile	10	20	14	18	18	13	13	16	18	17	11	12
38th Percentile	25	31	30	36	36	24	28	35	31	32	18	26
13th Percentile	50	61	62	60	63	53	65	57	57	55	42	41
Monthly Q50	94	79	99	166	188	116	78	38	36	79	79	108

Figure 1: Spanish River at Domtar Dam at Espanola



2. Purposed Operation Flow variations

Appendix I attached with this document contains the flow and level charts of the Wabageshik Rapids project for all 12 months as proposed. Table 2 below summarizes the maximum daily flow fluctuations of the Wabageshik Rapid project under typical monthly inflow conditions. The flow fluctuation values listed on the table are at the Wabageshik GS site. It should be noted that the flows listed will be significantly attenuated by the Domtar dam due to the confluence with flows from the Spanish River and the storage effect of the 22 cm operating range in the headpond of Domtar Dam. The net fluctuations in flows experienced at Domtar Dam due to Wabageshik would be less than the values shown in Table 2. However, a detailed routing analysis would require operating data from the facilities upstream on the

Spanish River which are not available to us. Using the values Table 2 provides a conservative assessment of the flow variability contribution at Domtar Dam.

Table 2: Maximum daily flow fluctuations of Wabageshik Rapid GS (Flow In CMS)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg Inflow	22.2	17.4	22.9	134	89	33	17.8	12.7	12.8	27	43.1	24.6
Max Outflow	26	26	28	134	89	50	26	25	25	38	60	53
Min Outflow	20	7	20	134	89	22	5	5	5	20	32	25
Max Flow Fluctuation	6	19	8	0	0	29	21	20	20	18	29	29

Comparing the daily flow fluctuation at Wabageshik (last row of Table 2) to the average daily flow fluctuation at Domtar Dam under existing conditions (50th Percentile row in Table 1) shows that the proposed fluctuations at Wabageshik are significantly less than the existing fluctuations at Domtar Dam most of the time, and significantly less than the 13th Percentile fluctuations at Domtar Dam under existing conditions at all times.

It should be noted that the total range of flow fluctuation at Domtar Dam is limited to the maximum turbine operating range at that location. The underlying flow data in Figure 1 clearly shows that on many days, the turbines at Domtar Dam run at maximum capacity. The operation of Wabageshik would have no affect on maximum flow variability at those times. Any additional water made available by Wabageshik would have to be processed by extending the run time, thereby not further contributing to variability. At times when maximum turbine flow is reached under existing conditions, the operation of Wabageshik will have no additional effect on the frequency or magnitude of flow fluctuations downstream of Domtar Dam, only on flow duration.

Based on this analysis, the flow fluctuations resulting from the proposed Wabageshik project would not significantly increase the flow fluctuations occurring downstream of Domtar Dam under existing conditions. We trust this information is sufficient to address the question raised by MNR regarding potential impacts downstream of Domtar Dam at the meetings on February 27 and 28, 2013.

Yours Truly,

Nava Pokharel, P. Eng.
Senior Project Manager
Xeneca Power Development Inc.

Appendix I

ORTECH Environmental
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March 12, 2013

Xeneca Power Development Inc.
5255 Yonge Street, Suite 1200
Toronto, Ontario
M2N 6P4

Vermilion River: Wabageshik Rapid – Proposed Operating Flows and Level Charts

ORTECH has produced a series of proposed operating curves for the "Wabageshik Rapid" waterpower development. The curves depict flow conditions (in cubic meters per second or cms) downstream of the development and the associated water elevations (in meters) immediately upstream of the development, referred to as Headpond Elevation. Operational Parameters used in the development of the curves are provided at the end of this discussion. Inflow conditions depicted on the operating curves are as follows:

- Long Term Average Flow (LTAF);
- Q60 (inflow exceeded 60% of the period of record);
- Q70;
- Q80;
- Q85;
- Q90;
- Q95;
- Q_{EA} (Environmental Flow Target – Summer conditions), and
- Average Daily Inflows (January – December).

The methodology used in the creation of the curves is outlined below:

1) Each hour is divided into 20 minute segments to assist in the display of ramp up / ramp down activities. Ramp up /down activities are evenly distributed across a 60 minute time period. A mass balance of inflow – outflow is conducted for each time segment with the overall goal to maximize headpond storage capacity at the end of the off peak period and to minimize headpond storage (zero storage = no accumulation over 24 hours) at the end of the on peak period.
2) If the inflow rate exceeds the minimum turbine generation flow (Q_{TMIN}) then off-peak time segments are set to Q_{TMIN}, otherwise all off peak segments are set to the minimum flow value of $Q_{COMP} + Q_{EA}$.

3) During periods when the minimum outflow is $Q_{COMP} + Q_{EA}$ the turbine generation capacity is restricted to 25 cms.
4) On peak and off peak flows are further averaged across the respective on peak / off peak times to provide uniform flows. This averaging approach seeks to reduce the frequency of variable river flow while balancing daily inflow / outflows.

The above methodology takes into account ramp up / ramp down times and the associated water volumes. Understanding that some loss of generating flow and turbine efficiency will result from these operations, a minimum headpond storage volume equivalent to two hours of generating flow at Q_{TMIN} was selected as a minimum operating condition. This criterion was further based upon a consideration for the limited storage capacity at this site.

Under low inflow conditions, such as depicted by the Q85 curve, operation may occur for two hours one day and three hours the next day. Operation of the generating station for a period of less than two hours to "zero out" headpond storage is unlikely For this reason some net storage may exist at the end of a 24 hour cycle.

The proposed operating curves are further based on maintaining headpond water elevations near the Normal Operating Level (NOL) to maximize the potential energy benefit (head) during periods of low inflow. Consequently the starting headpond water elevation will be maintained at the end of a 24 hour cycle rather than depleting the headpond storage, resulting in reduced energy potential for the next 24 hour generating cycle.

DRAFT

Table 1: Wabageshik Rapids Operation Table

Acronym	Description	Project & Streamflow Conditions (m^3/s)			
		Spring (Mar 20 - May 24)	Summer (May 25 - Oct 11)	Fall (Oct 12 - Dec 24)	Winter (Dec 25 - Mar 19)
Q_{99}	Streamflow exceeded 99% of time	13.2	2.78	4.45	5.92
Q_{95}	Streamflow exceeded 95% of time	19.3	5.19	8.89	8.89
Q_{80}	Streamflow exceeded 80% of time	43.2	9.40	21.6	13.5
Q_{50}	Streamflow exceeded 50% of time	102	18.9	37.7	20.5
Q_{20}	Streamflow exceeded 20% of time	193	38.2	63.4	29.9
Q_{EA}	Downstream environmental flow target	No int. op.	5.0	Oct = 5.0 Nov = 6.5 Dec = 8.0	Jan = 8.0 Feb = 6.5 Mar = 6.5
Q_{COMP}	Compensatory flow (between tailrace and dam)	2.0	0.5	0.5	0.5
Q_{Tmax}	Maximum turbine capacity	64.0			
Q_{Tmin}	Minimum turbine flow	19.2			
Q_{TL}	Limited turbine flow - modified ROR	41.6			
	Maximum turbine flow during intermittent op	25.0			
LTAF	Long term annual flow, average annual mean	47.3			
Q_{MED}	Median streamflow value	27.3			
7Q2	2 year return period 7-day-average-low flow	6.84			
7Q10	10 year return period 7-day-average-low flow	3.50			
7Q20	20 year return period 7-day-average-low flow	2.89			
Q_{HWM}	Streamflow corresponding to high water mark *	110			
$Q_{1:2}$	High streamflow event; occurrence of 1 in 2 yr	268			
$Q_{1:100}$	High streamflow event; occurrence of 1 in 100 yr	507			
	Turbine Ramp Time	60 min			
	Turbine Down Ramp Time	60 min			

Table 2 provides a summary of the monthly headpond statistics resulting from the proposed operating scenarios.

Table 2: Summary of Headpond Statistics

Chart Notes and Comments:	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Headpond Variance (m)	0.02	0.07	0.03	0.00	0.00	0.10	0.07	0.07	0.07	0.06	0.10	0.10
Max Headpond Fill Rate (cm/hr)	0.1	0.4	0.1	0.0	0.0	0.5	0.5	0.3	0.3	0.3	0.5	0.5
Max Headpond Drawdown Rate (cm/hr)	-0.2	-0.3	-0.2	0.0	0.0	-0.7	-0.3	-0.5	-0.5	-0.5	-0.7	-0.7

Note: The above values are representative of average monthly conditions and operating scenarios. These values are not intended nor should they be used to represent compliance targets or operating limits.

DRAFT

Vermillion River: Wabageshik Rapids

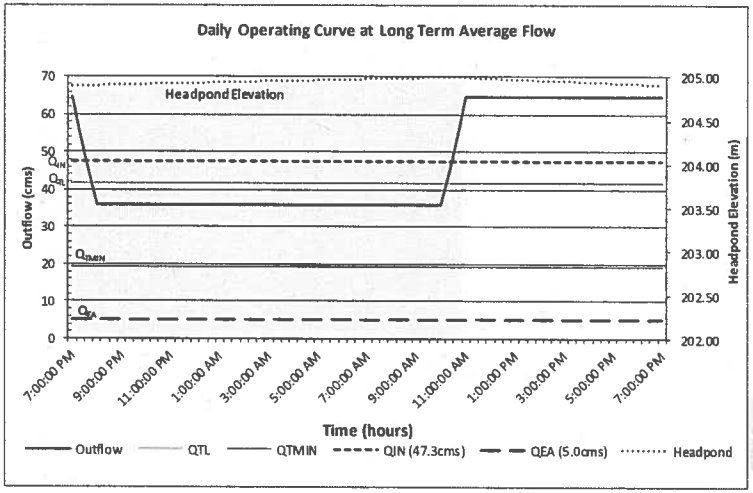


Figure 1

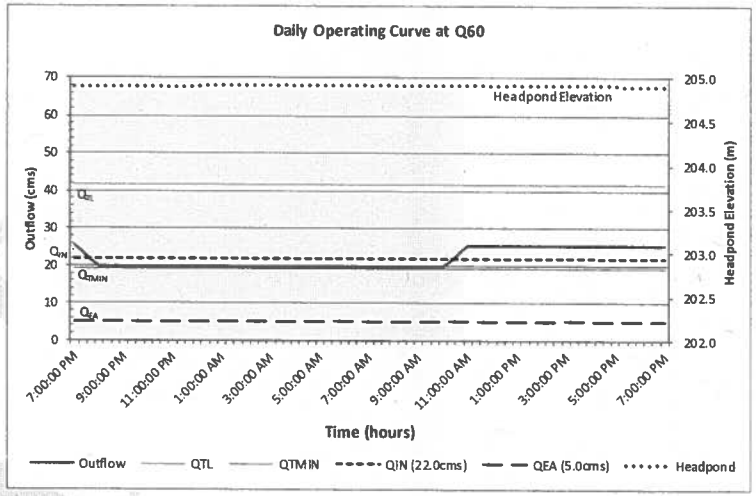


Figure 2

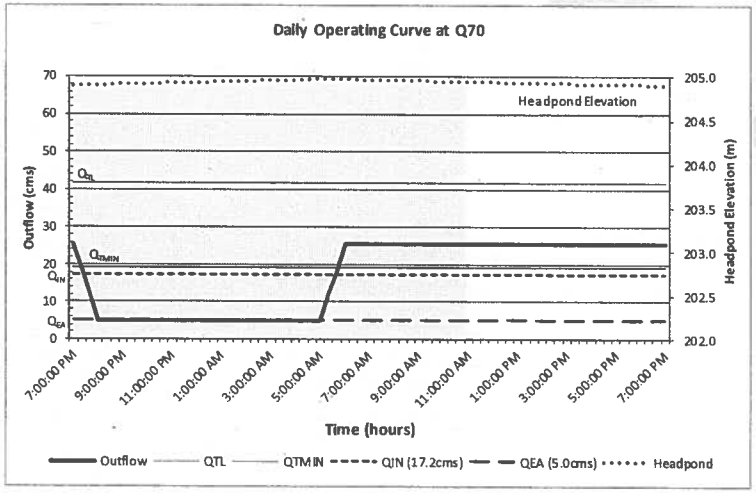


Figure 3

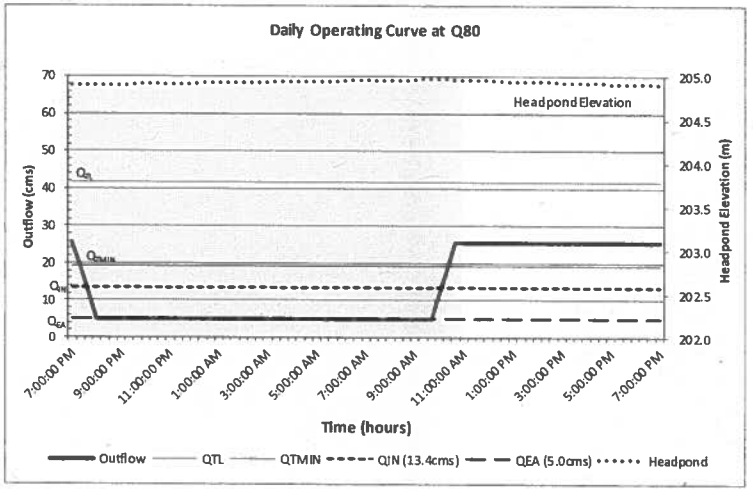


Figure 4

Vermillion River: Wabageshik Rapids

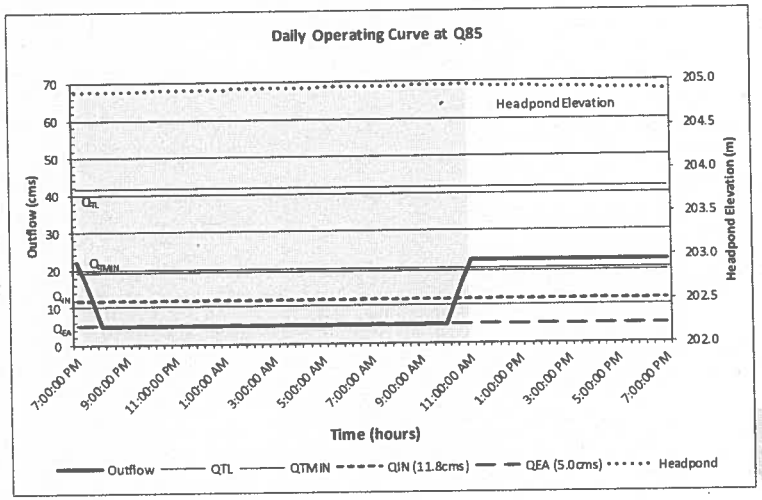


Figure 5

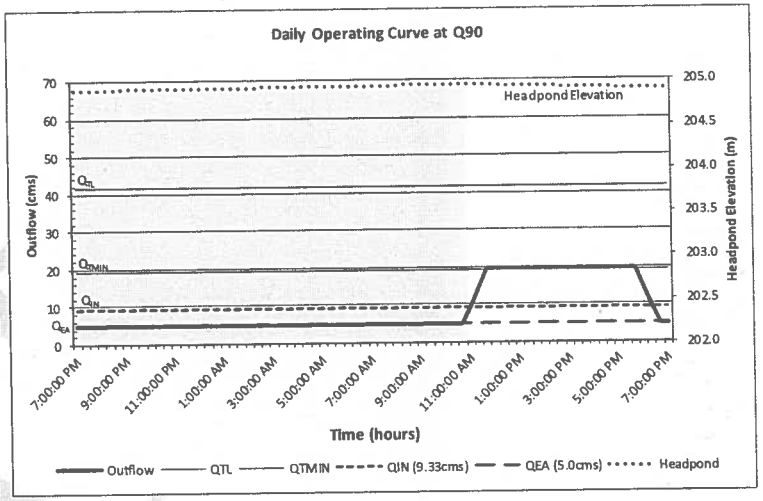
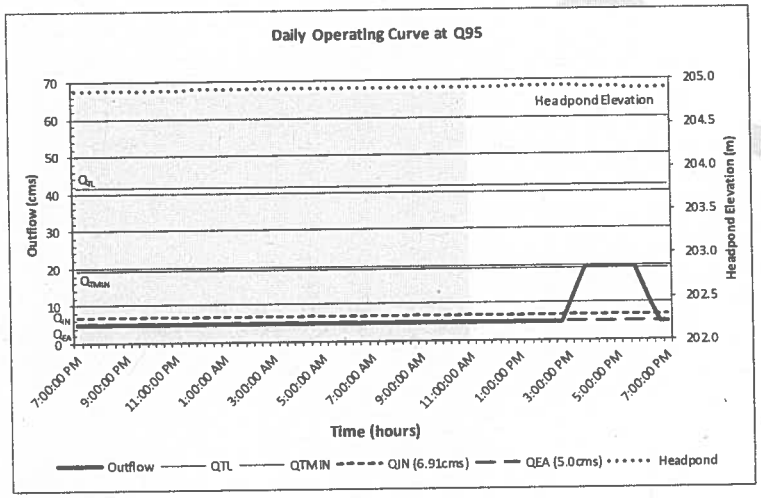


Figure 6



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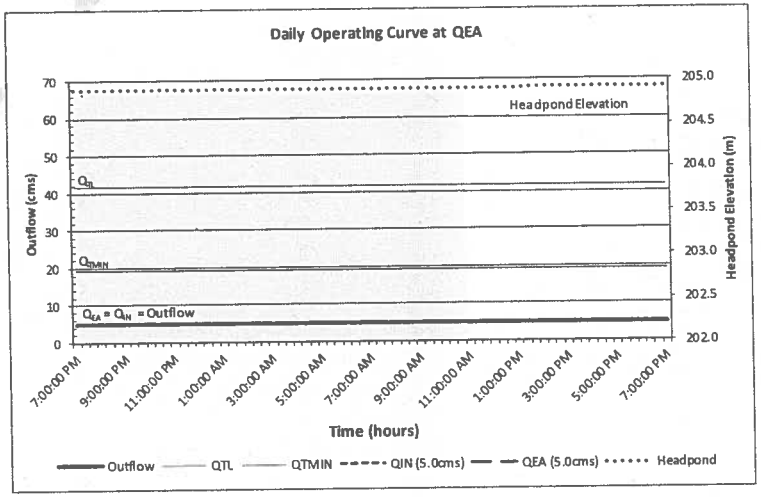


Figure 8

Vermillion River: Wabageshik Rapids

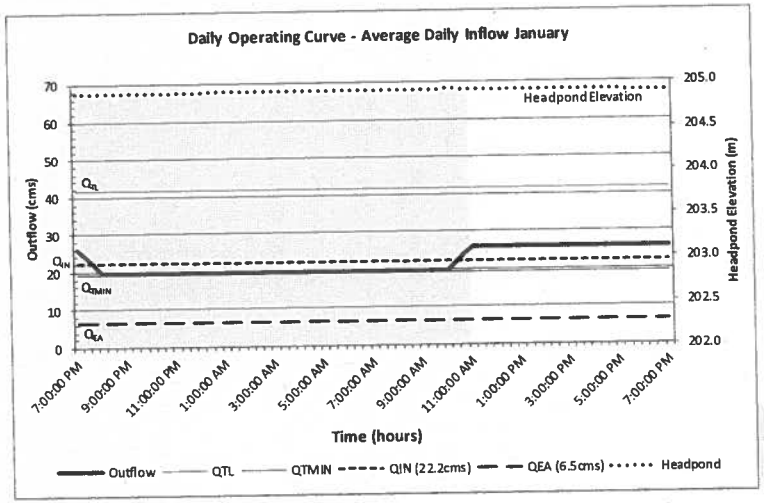


Figure 9

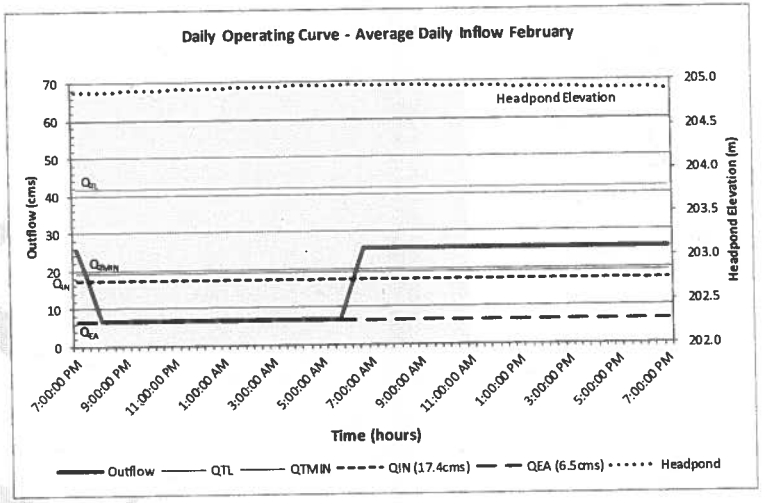
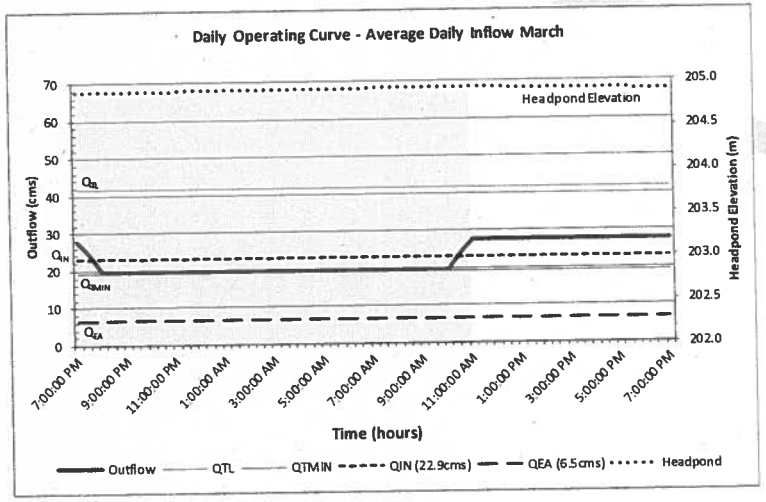


Figure 10



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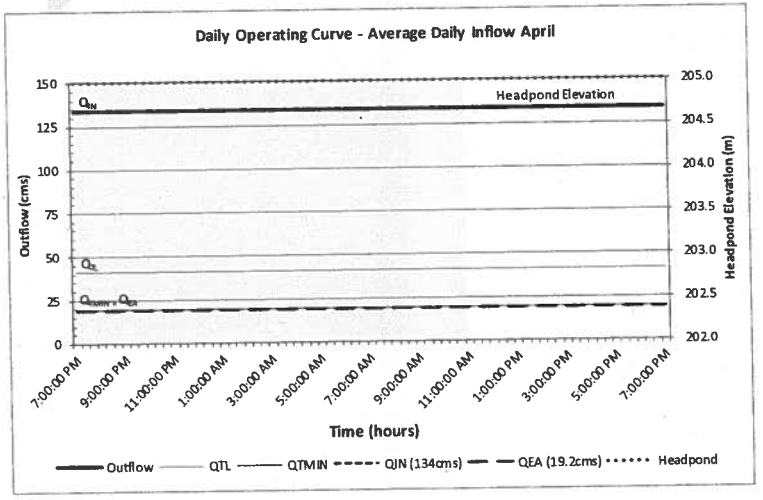

Figure 12

Vermillion River: Wabageshik Rapids

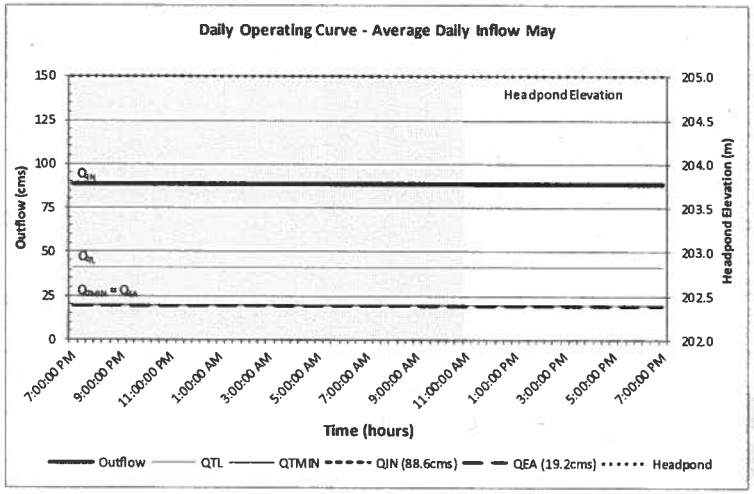

Figure 13

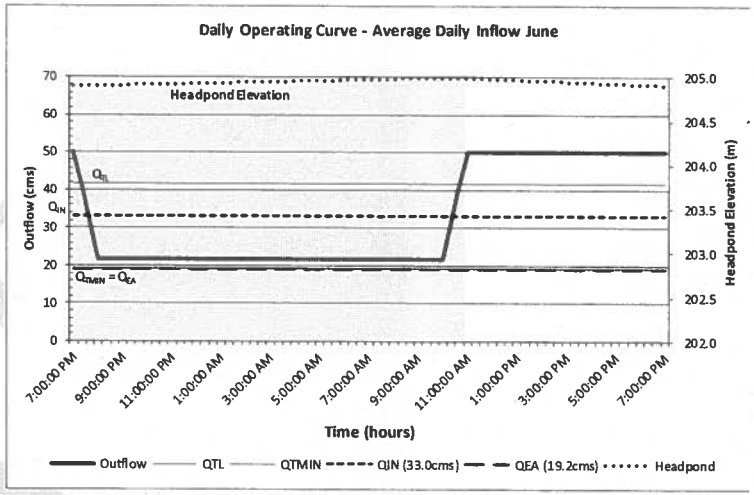

Figure 14

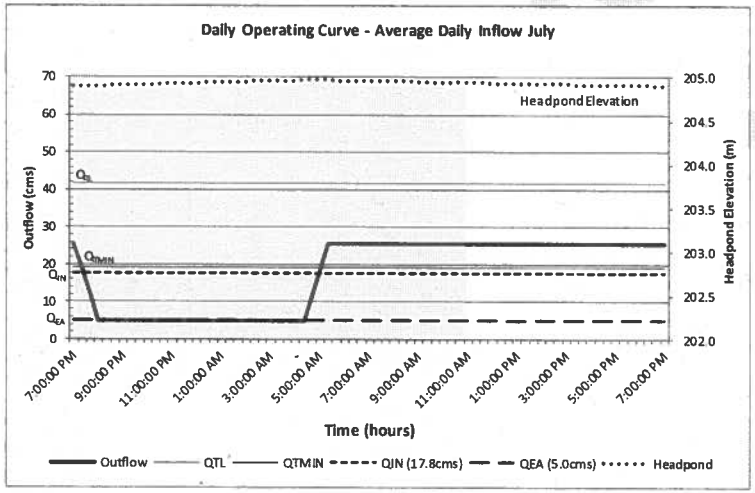

Figure 15

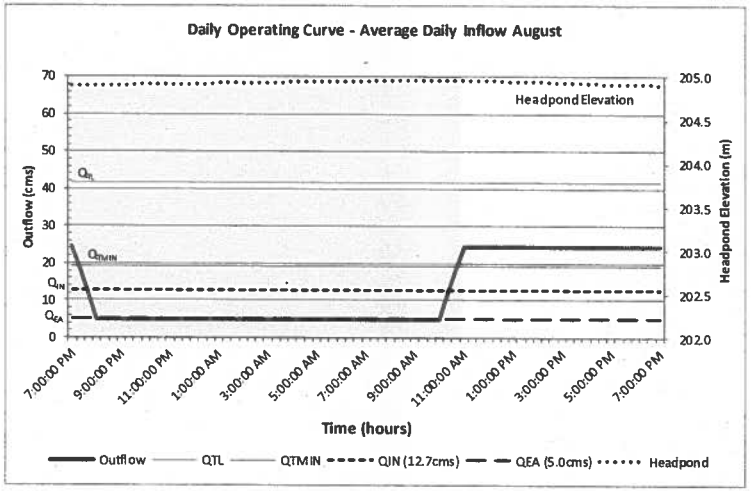

Figure 16

Vermillion River: Wabageshik Rapids

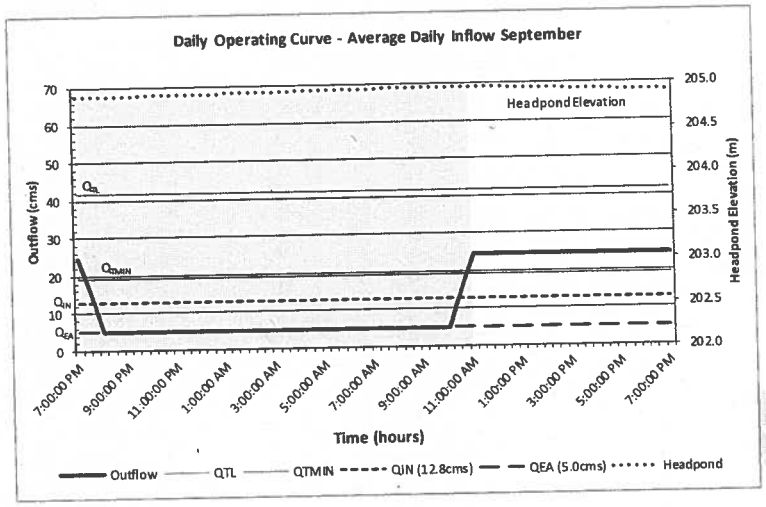

Figure 17

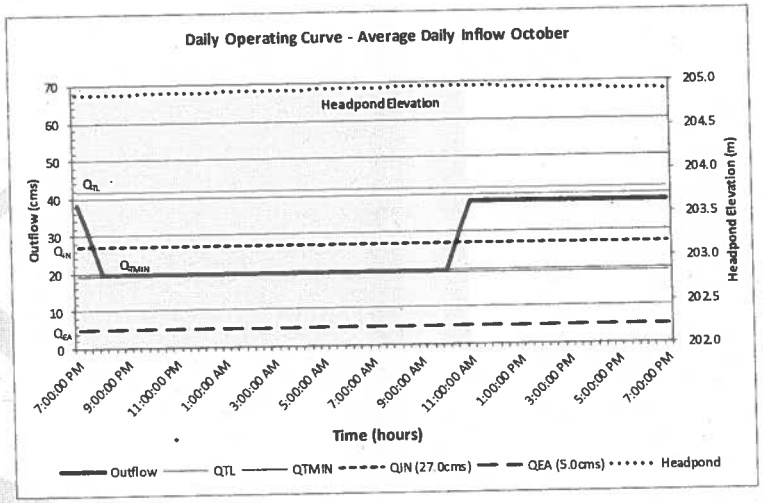

Figure 18

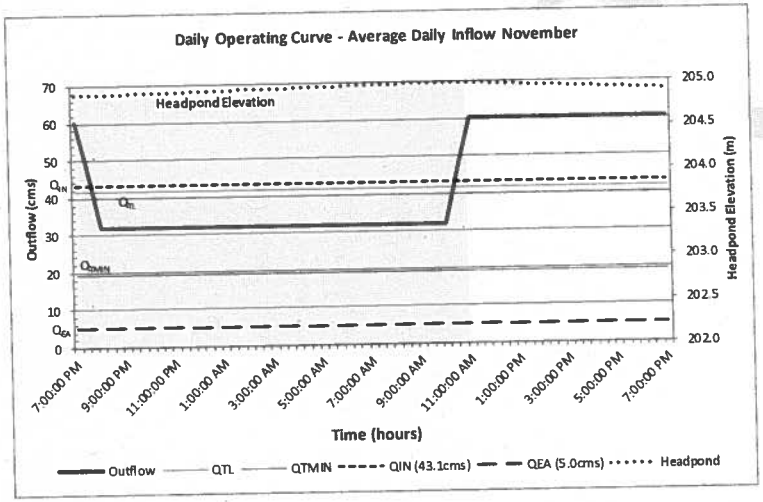

Figure 19

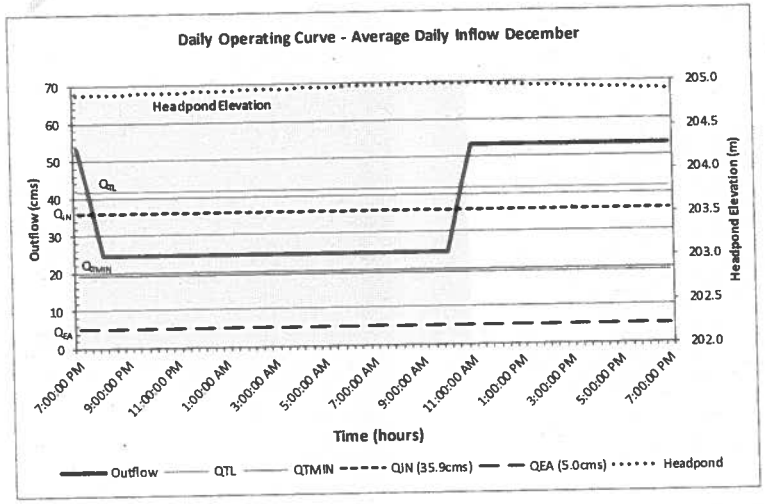

Figure 20

Contact Documentation

Project: **Xeneca New Roads Assessment in NE**

Contact	**Brendan O'Farrell**	Date:	June, 2013
Organization	MNR		
Address	Sudbury	Copies To	
Phone	705-864-3139		
Contacted By	K. Saunders KBM Resources Group **by phone**		
Purpose of contact	Discuss progress with habitat assessment (fine filter GIS query-based exercise to focus areas for field work) and request MNR feedback on approach.		
Summary of Discussion	Described proposed approach to habitat assessment and field work. Brendan committed to having the district bios review as soon as possible. Suggested providing a specific deadline. Brendan expressed two overall concerns with Wabagishik Report: 1. Presence of a power line option (not associated with a road corridor). It was under his impression that a meeting in March with Xeneca had resulted in a commitment from Xeneca to drop any options where there were power lines in isolation of roads 2. Wants to verify that all current options were at some point presented to the public in an open house.		
Follow-up	Karen followed up with Xeneca staff who then advised to remove the power line only option. Report was updated with only two options (both with combined power line and road corridors). Xeneca confirmed that the options being contemplated had been presented at past PICs. Karen updated Lines and Roads report and all assessment-related pieces to reflect the two options. On June 18th, Karen sent the habitat assessment results to Brendan to review (with a deadline of June 21). Karen also sent the Lines and Roads report to Xeneca.		
Action Taken By	K. Saunders	Date: June 2013	

Danielle Dempsey

From: Stephanie Hodsoll <SHodsoll@xeneca.com>
Sent: June-26-13 1:52 PM
To: Robinson, Bob L. (MNR)
Cc: O'Farrell, Brendan (MNR); Selinger, Wayne (MNR); Leah Deveaux; cdejong@ortech.ca; Kai Markvorsen; Lynn Moreau; Ed Laratta; Andrew Schiedel; Mark Holmes; Uwe Roeper
Subject: RE: Wabagishik Fish Habitat Compensation Plan Comments
Attachments: Xeneca Response to Fish Habitat Compensation Plan Comments_26june13.pdf

Hi Bob,

Please see attached our response to MNR's Fish Habitat Compensation Plan comments. In the document, you will see that the original MNR comments are in italics, followed by Xeneca's response.

We are working on responses to the other 4 comment documents from MNR and will have them all to you over the next week or 2.

Thanks,
Steph

Stephanie Hodsoll
Stakeholder Relations
Xeneca Power Development
5255 Yonge St., Suite 1200
North York, ON M2N 6P4
(416) 590-3077

From: O'Farrell, Brendan (MNR) [mailto:Brendan.OFarrell@ontario.ca]
Sent: Tuesday, June 11, 2013 8:57 AM
To: Mark Holmes
Cc: Stephanie Hodsoll; Selinger, Wayne (MNR)
Subject: FW: The First 2 of 5 Review Comment Documents

This is how taxed we are guys…seems I sent out the wrong document. Please take the document with Charles Hendry in the title and completely disregard it substituting it with the attached BMP. Sorry for the mix up!

Brendan O'Farrell

A/Project and Information Management Specialist
Ontario Ministry of Natural Resources
3767 Hwy 69 South, Suite 5
Sudbury, Ontario P3G 1E7

Phone: (705) 564-7849
Cell: (705) 618-4328
Fax (705) 564-7879
E-Mail: brendan.ofarrell@ontario.ca

In order for us to serve you better, please call ahead to make an appointment with our staff.

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June 26, 2013

Bob Robinson
Ontario Ministry of Natural Resources, Sudbury District
Suite 5, 3767 Hwy 69 S
Sudbury ON P3G 1E7

Dear Bob:

RE: Xeneca Response to MNR Comments on Wabagishik Fish Habitat Compensation Plan

The following is Xeneca's response to the MNR comments on the Fish Habitat Compensation Plan for the proposed Wabagishik Rapids GS. The original MNR comments are in italics, followed by Xeneca's response.

MNR Comments: Wabagishik Rapids Hydroelectric Generating Station Project Preliminary Fish Habitat Compensation Plan

June 10, 2013

Comments from: Wayne Selinger (MNR, Sudbury District), Scott Finucan (MNR, Northeast Science and Information), Nikki Boucher (MNR Sudbury District), Charles Hendry (MNR, Northeast Science and Information)
Note: Initials and agency of the commenter follow the comments are in brackets.

General:

• Better baseline data and river 2D modeling is required downstream to evaluate existing conditions and guide habitat creation/enhancement efforts, HEC-RAS modeling will not provide the detail in BED form needed to adequately determine what the compensation habitat will provide. We strongly recommend the proponent collect supporting field data and carryout river 2D modeling in the section of the river from the proposed dam/tailrace structures down to the embayment prior to finalizing habitat enhancement/creation options. One can manipulate the BED mesh layer with the addition of new designs to get a very good picture of how much habitat will be gained under the compensation plan, the target being an improvement in bed diversity and velocities. We believe that this additional work could be undertaken after FA submission prior to permits and approvals; however the compensation plan included with the final ER should clearly articulate the design path. [W.S. and S.F.-MNR]

- Xeneca is committed to 2D modeling in the downstream section of the river post-EA to assist the detailed design in areas for habitat compensation during the permitting stage. Section 3 of the Fish Habitat Compensation Plan reflects this commitment.

- The main ER document will be updated to include a section summarizing compensation requirements and planning and the commitments section will be updated to reflect further commitments related to modeling and the post-EA refinement of the compensation plan.

• *The data and modeling requirements identified above need to consider the potential implication of concentrating the 64 cms tailrace flow directly through the spawning habitat on the south side of the channel during the spawning window. The concern being whether the resulting tailrace velocities during high flows will exceed suitability for walleye or sturgeon spawning. Under pre-existing conditions much of the hydraulic energy would have been absorbed by the plunge pool below the proposed spillway. Addition of structural diversity in this area may mitigate velocity to some extent. [W.S. and S.F.-MNR]*

- The turbines will absorb much of the energy from the water that is currently absorbed by the plunge pool. The turbines run continuously during spawning, incubation and larval drift, further ensuring favorable conditions. Additionally, Xeneca has already committed to placing suitable substrate in the tailrace to maintain the diversity. The optimization of the tailrace will be finalized in the detailed design stage with input from MNR and DFO (Plans & Spec stage of LIRA).
- Secondly, the 2D model will include the tailrace and will work towards maximizing the amount of functional Walleye and Sturgeon spawning habitat.

• *Additional consideration of logistics is required. Dumping rock off a barge with a bobcat is no way to create a good diversified bed; you need an excavator with a clam bucket to place the larger boulder material needed to provide critical velocity diversity. Boulder placement and diversified structure is the key, simply dumping rock of a suitable quantity and size would not suffice. [W.S. and S.F.MNR]*

- Agreed. The details of the implementation of the fish habitat compensation plan, including safety considerations, will be determined during the detailed design stage of the permitting phase. Discussions related to dumping rocks off a barge with a bobcat will be modified in the monitoring plan.

• *There is a definite need to delineate between impacted habitat for Lake Sturgeon and for other species. It was noted by Scott Finucan that a study on the Moon River revealed that only 7% of spawning habitat suitable for Walleye was actually usable by Lake Sturgeon. There may be a gross over-estimation of suitable Lake Sturgeon spawning habitat in this plan, which may result in Xeneca having to provide more overall benefit than should actually be required. [N.B.-MNR]*

- Potential Lake Sturgeon spawning habitat has been conservatively determined using this approach which is appropriate at this conceptual stage and for use in the Environmental Assessment. The downstream 2D river modeling will inform species specific habitat compensation with a high level of confidence.

• *It should be stressed that there is a significant difference between the concepts of "no net loss" and "Overall Benefit". "No net loss" entails a like for like compensation rate (i.e. 1:1) whereas Overall Benefit is defined in MNR's "Endangered Species Act Submission Standards for Activity Review and 17(2)(c) Overall Benefit Permits".....*

With regards to permanent destruction of habitat of a provincially threatened or endangered species with habitat protections, MNR generally requests a 2:1 replacement to the destruction ration in order to

achieve an overall benefit to the species. Please note, however, that other avenues for achieving overall benefit may also be explored and can be used in combination.

- Understood. Xeneca will commit to providing "overall benefit" for Lake Sturgeon and use the "no net loss" principle for the non- SAR species and benthic production.

• *Concur with Kelly Eggers (DFO) re: lack of detail in how the HADD was quantified. This is a critical first step in the process. The amount of habitat reported as HADD was reduced by 50% between release of the draft ER and the preliminary compensation plan. This reduction may or may not be defensible, it is difficult to determine the quantity of habitat lost without seeing some data/model output. Ideally, cross sectional velocity measurements would have been obtained using a Sontek river surveyor to gain a better understanding of what presently exists at the site and what will be lost. [W.S. and S.F.-MNR]*

- Additional details have been added to Section 2.1 to better define how the HADD was quantified for the preliminary draft Habitat Compensation Plan. The HADD has been conservatively determined for the requirements for the EA and updated text will be included in the final ER. During the permitting stage, Xeneca will gather additional data as needed and consider using the Sontek river surveyor.

• *With regard to the suggestion that some spawning function will remain upstream of the dam (at the riffle upstream of the snowmobile bridge) rationalizing a 1:1 compensation ratio - we question the value of any residual habitat function above the dam. Is it realistic to expect any recruitment to downstream population even if lake dwelling fish do use the habitat? [W.S. and S.F.-MNR*]

- Agreed. Xeneca will not include this as remaining functioning spawning habitat. Section 2.1 of the Fish Habitat Compensation Plan has been adjusted to reflect this.

• *Pg. 5, 3rd paragraph, second to last sentence — There is an assumption here that walleye and sucker will run downstream to spawn (i.e. from the lake to the river). I do not know of any sites where walleye will actually run downstream to spawn. Typically these fish run upstream to spawn (i.e. from Wabagishik Lake to just below the Lorne Falls Generating Station. The proponent is making an assumption which based on information to the contrary is false. [C.H.-MNR*]

- Agreed that downstream movement is not the norm. Section 2.1 of the Fish Habitat Compensation Plan has been adjusted to reflect this.

• *Habitat characterization and quantification are based on a coarse-scale methodology (i.e. riffles, runs, etc). Micro-habitat features such as water velocities are modeled with HEC_RAS. Both approaches lead to generalized outputs for habitat which provide a coarse approximation. All in all this could produce a value that over-estimates the amount of usable habit [C.H.- MNR]*

- The habitat needed for compensation has been conservatively determined using this approach which is appropriate at this conceptual stage and for use in the Environmental Assessment.

• *P .4, 2nd paragraph - The last sentence clarifies what the proponent is prepared to consider for habitat compensation. Essentially, Xeneca is prepared to compensate for habitat lost in the head pond portion only. I found no reference to downstream habitat compensation so this is missing from the document (see additional comment on Section 2.2 [C.H.-MNR]*

- Habitats which are considered as part of the HADD are located between the facility and Wabagishik Lake as a result of inundation and within the footprint of the structure itself. However, the fish populations which will be most affected by these habitat changes are located downstream of the proposed facility as they will lose access to these areas. Xeneca is committed to compensating downstream for habitat lost upstream of the project and habitat lost in the footprint of the facility. The facility is run-of-river during spawning and the draft Operating Plan includes other operational commitments intended to mitigate effects on habitats downstream. Therefore, while there may be effects on these habitats as a result of the facilities operation, they are not considered severe.

Section 2.2

• Pg. 7, 2nd paragraph, last sentence - As noted elsewhere in the document the proponent has not acknowledged that there is existing fish habitat downstream and has not accounted for it in the compensation proposal. My assumption is the proponent has assumed the facility operation's flow releases will not impact the downstream habitat. [C.H.-MNR]

- Correct. Yes, the area downstream of the project that will be dewatered is now sometimes being dewatered naturally, although this will occur more frequently after the project is built. Xeneca is providing a compensatory flow that is equal to the low flow observed under natural conditions in dry years.
  Xeneca acknowledges that some habitat will be lost immediately downstream of the tailrace area, but the loss will be accounted for in the Fish Habitat Compensation Plan.

Section 3.0 – Table 1

• The walleye and combined velocity preferences should be changed to read 0.3 - 1.1 m/s. This is based on actual velocities that walleye are using throughout the northeast on 12 other sites similar to the Wabagishik site. The lower velocities are quite crucial to the spawning event.

- Agreed. This has been updated in Table 1, Section 3.0.

Section 4.0

• We note that the January 9, 2013 e-mail from Nava Pokharel in Appendix 1 identifies the tailrace area as a candidate but suggests that it be "reserved for restoration of the potential spawning area that may be disturbed during tailrace construction". Is there potential for additional HADD beyond that quantified thus far? The tailrace area may be the opportunity for the greatest gain given the tendency of walleye to bypass suitable habitat and migrate upstream to a barrier. Although there is already suitable substrate in the 300m stretch below the proposed tailrace, there is very little in the way of habitat diversity, velocity breaks, etc. Incorporating boulder or other structures to increase bed diversity and provide resting areas could significantly improve suitability/productivity of this area. The tailrace area to the embayment should be added as a candidate location for compensation and the three sites should be ranked in priority, the area immediately below the facility providing the optimum location to do some aquatic enhancement. [W.S. and S.F. - MNR]

- Agreed. Section 4.0 of the report has been updated.

Section 5.1

• The proposed monitoring plan looks pretty standard; however, the methods should include velocity profiles across the beds, using a river profiler such as a geo-referenced Sontek unit, changes in wetted perimeter with flow scenarios, etc.

- The preliminary Monitoring Plan is a conceptual document. It is agreed that the depth and velocity will be monitored; however the technologies that will be employed have not yet been determined. This suggestion will be considered.

• The monitoring components listed are what I would consider to be minimum at best. To show that the newly created habitat is truly functional, monitoring should actually be able to demonstrate functionality. There should be a fourth bullet that specifies the need to monitor incubation and hatch. This also gets back to concerns regarding habitat. Habitat is also defined by flows and levels (not just a load of rock) and if sufficient flows are passed to ensure successful hatch, then the habitat is right. [C.H.-MNR]

- Agreed, these are all good suggestions. The finalized Fish Habitat Compensation Plan and the finalized Biological Monitoring Plan will be further refined in discussions with agencies to reflect these types of suggestions.

Section 5.4

- *The schedule is not consistent with what is in the Biological Monitoring Plan.*

- Agreed. Section 5.4 has been updated.

Appendix 1 – Letter from Xeneca's Engineer

- *The statement made re: the Spanish River sites at Nairn not being subject to siltation raises some concern as to how well this consideration was evaluated. Areas below Nairn are subject to high sand transport and deposition. Admittedly, Xeneca has not been focusing their field studies on the Vermillion [W.S. and S.F.-MNR]*

Xeneca has not conducted any studies on the Spanish River or the location of the Nairn Station. The comment on Nairn sediment was based on the general assumption that sediment load is usually low at the outflow of dams. It was later clarified that MNR has site-specific information indicating high sediment load downstream of Nairn. Xeneca accepts this information. The Nairn comment by Xeneca was part of an early discussion about possible spawning compensation at Nairn based on a visual site visit only. This option was not further pursued after discussions with agencies and stakeholders.

Thanks again for sharing your comments on this document with Xeneca.

Yours truly,

Stephanie Hodsoll
Stakeholder Relations Officer
shodsoll@xeneca.com

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June 27, 2013

Bob Robinson
Ontario Ministry of Natural Resources, Sudbury District
Suite 5, 3767 Hwy 69 S
Sudbury ON P3G 1E7

Dear Bob:

RE: Xeneca Response to MNR Comments on the Draft Wabagishik Operating Plan

The following is Xeneca's response to the MNR comments on the Draft Operating Plan for the proposed Wabagishik Generating Station. The original MNR comments are in *italics* followed by the Xeneca response.

MNR Comments For:

Proposed Operating Plan and Water Management Plan Amendment Wabagishik Rapid Small Waterpower Project (Draft for Discussion Only)

Evaluation of Flow Fluctuations at Domtar Dam due to Wabagishik GS Operations (Memo),

Email from Uwe Roeper March 14, 2013 4:18 PM

June 14, 2013

Comments by: Wayne Selinger, Ryan Stainton, Rob Schryburt and Rich Pyrce

Note: Commenter's name and/or the source of the comment follow each comment in square brackets.

Proposed Operating Plan and Water Management Plan Amendment Wabagishik Rapid Small Waterpower Project

- *The following represents an overview of input provided & negotiations to date regarding the proposed operating plan for Wabagishik Rapids and associated ecological risk. While the list may appear long, many concerns have already been resolved in principal and the various commitments / agreements simply need to be articulated in the operating plan and final ER. Other matters require further consideration and dialogue (potential modification of flows below Espanola.) [Outstanding Operating Plan Considerations]*

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General Comments

- *Expected downstream impacts associated with hydropower peaking include hourly changes in wetted habitat, substrate modification related to erosion & sediment transport, loss of vegetation in the littoral zone, dewatering and/or dislodging of benthic invertebrates, shoreline erosion, ice scour, stranding of fish, etc. We anticipate changes in the abundance and diversity of benthic invertebrates and subsequently the various fishes that depend on them (from cyprinids to sportfish.) Ultimately, we may see an impact on the overall productivity of the system. While we acknowledge Xeneca's commitment for "true" run-of-the-river operation during the walleye / pike / sturgeon spawning and incubation windows, we are also concerned about general impacts to the integrity of the ecosystem at other times of the year. The primary tools available to manage the level of impact include establishing an appropriate minimum flow, limiting the overall range or amplitude of daily fluctuation, limiting the frequency of operating cycles, and ensuring reasonable ramping rates between low and high flows. [Outstanding Operating Plan Considerations]*

The downstream impacts on the overall ZOI have been assessed in the ER (Environmental Report.) The impacts for the other times of the year have been addressed with the commitment to provide minimum ecological flows as outlined in the Operating Plan. Detailed hydraulic modeling has been presented in support of the minimum ecological flows proposed. Monitoring has been proposed to verify ecological integrity going forward.

- *Because I am not overly familiar with this site a more thorough description of the dam and the various outlets including listing the number of spillways or gates or sluiceways, etc., would have helped. [Rob Schryburt - April 9, 2013 email]*

Conceptual drawings of the physical works are included in the ER. The basic layout consists of a broad crested weir with an adjustable Obermeyer Weir crest which allows the headpond to follow the natural upstream lake level. Minimum flows are provided through a valve in the powerhouse. Compensatory flows are provided through an orifice in the weir structure. The detailed design will be prepared only if the project successfully completes the EA process. At that time, the proponent will seek review and approval of the detailed engineering design from MNR as required under the Plans & Spec approval (LRIA legislation.) The proponent is aware that the features of the detailed design must include the functionality for environmental mitigation as committed to under the EA process. If unfamiliarity with the project is problematic Xeneca would welcome the opportunity to present details.

- *The most appropriate flow record for this site is the 1981-2011 dataset assembled by Sajjad at OMOE. Specifically, a dataset that uses daily data from 02CF004 (Vermilion River at Lorne Falls) for 1981 to 1993; data prorated from Domtar (Spanish River at Espanola Dam) for 1994 to 1998; and daily data from Lorne Falls G.S. (courtesy of Vale) for 1999 to 2011. [Outstanding Operating Plan Considerations]*

The proponent is supportive of the assertion by Sajjad that the flow record set assembled by him and containing some of the records from both sources (Vale company data and official Water Survey of

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Canada data) provides some useful perspectives for analysis. These aspects were discussed at some length during technical meetings with agency staff. However, it was agreed in writing by MNR email that the analysis carried out using only the official Water Survey of Canada data would be acceptable. It was this latter data that was used in the Operating Plan to describe the general hydrologic setting. It is further noted that it was agreed at the technical meetings that choice of record sets has little impact on the Operating Plan. The Operating Plan sets out the mode of operation for various inflow rates covering the range of flows that are reflective of both datasets.

- *The description of how the facility will be operated during various periods is fairly extensive. However without a full description of the dam it is difficult to comment on a possible need for more details (if there are log sluiceways, for instance, we would like to know if stop logs are to be removed prior to the spring freshet and how many and where and then we need to know how that are placed back in the dam.) [Rob Schryburt - April 9, 2013 email]*

This is a valid comment that can be dealt with as part of the Plans & Specifications approval process. The purpose of the post EA approval process is, in part, to ensure that the commitments made in the EA are followed through in the detailed design. Details, such as the design of compensatory and minimum flow valves, are best done at the detailed design stage of the permitting process and in close collaboration with MNR.

- *This report continues to discuss operations as "modified run-of-river"; in fact this will be a peaking facility with run of river only during high and very low flows. [Rich Pyrce, March 19th, 2013]*

Some jurisdictions define "run-of-river" as any operation where all flow is released each day (e.g. World Bank.) Other jurisdictions define "run-of-river" more stringently such that inflow equals outflow at all times (e.g. Ontario Waterpower Association.)At present MNR and/or MOE do not have a formal definition of "run-of-river." The proponent believes that the proposed operation has been extensively dealt with in the EA process and that every effort was made to ensure that stakeholders understand the proposed operation clearly. The proponent uses the term "modified run-of-river" to highlight that flows will be varied during the day but that all water is released every day.

Head Pond and Lake Levels

- *Xeneca has committed to "follow natural lake levels" with no backwater effect at Vale's tailrace; the only proposed modification being a +/- 5cm daily operating range. The operating plan included with final ER needs to provide additional clarity around these commitments and formal Vale concurrence with Xeneca's proposed design and operations is required prior to LRIA approval. [Outstanding Operating Plan Considerations]*

Very active stakeholder consultation has occurred with Vale throughout the EA process. Over the past 3 years, Vale has made a number of comments that were directly incorporated in the Operating Plan. As part of the consultation, Vale retained a waterpower consultant to assist in the review of the Operating Plan. The proponent and Vale have also collaborated on a bi-lateral memorandum of understanding

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with respect to river operations (still in draft.) The proponent believes that all issues raised by Vale in the EA stakeholder consultation process have been fully followed up on and addressed in the Operating Plan and that the MOU (Memorandum of Understanding) will be finalized prior to LRIA permitting and approval.

- *Section 2, Page 6 - Given hydraulic linkage to a 629 hectare lake, it is not really defensible to state that storage associated with this project is "very limited". The discussion re: difference between modified run-of-river and peaking is also misleading (see comment below re: Section 3.2.) [W.S. - April 17, 2013 Operating Plan Review]*

Details of the amount of storage are provided in the Operating Plan. The analysis shows that the available storage amounts to sufficient storage for limited daily operation but not more than that (less than 500,000 m^3 or slightly more than 2 hours at QT_{max}.) The amount of storage is not sufficient to shift production for multiple days, weeks or seasons as is done in certain types of waterpower operations. Thus the term "very limited."

Some jurisdictions define "run-of-river" as any operation where all flow is released each day (e.g. World Bank.) Other jurisdictions define "run-of-river" more stringently such that inflow equals outflow at all times (e.g. Ontario Waterpower Association.) At present MNR and/or MOE do not have a formal definition of "run-of-river." The proponent believes that the proposed operation has been extensively dealt with in the EA process and that every effort was made to ensure that stakeholders understand the proposed operation clearly. The proponent uses the term "modified run-of-river" to highlight that flows will be varied during the day but that all water is released every day.

- *Section 3.2, Page 8 - Document states that although the lake is hydraulically connected they will "maintain natural level therefore the lake is not considered part of headpond". As per comment above, the proponent is splitting hairs here. What about the +\- 5cm daily fluctuation proposed for the lake as identified in Section 3.4, page 9? While there may not be any significant new inundation on the lake, there is substantial daily storage, the lake is functionally part of the headpond, and the proposed operation is a peaking operation for majority of the year as indicated in Figure 1 & Table 3 (78% of the year in fact.) [W.S.- April 17, 2013 Operating Plan Review]*

Xeneca feels that the Operating Plan is very clear that the lake is part of the operation and hydraulically connected. Every effort was made in the EA stakeholder consultation process to ensure that all stakeholders are clearly aware of the proposed operation. This effort included notices that showed the lake as part of the ZOI. The final ER document will also be clear that the lake is part of the project ZOI.

- *The report states that "upstream storage will be very limited" and does not clearly discuss the distinction between the headpond and the hydraulic link with Wabagishik Lake. The headpond will include Wabagishik Lake and the report should clearly state this. What is the effect of this hydraulic connectivity to Wabagishik Lake levels? Figure 4. does not reflect this. [Rich Pyrce (MNR NESI), March 19th, 2013]*

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Xeneca feels that the Operating Plan is very clear that the lake is part of the operation and hydraulically connected. Every effort was made in the EA stakeholder consultation process to ensure that all stakeholders are clearly aware of the proposed operation. This effort included notices that showed the lake as part of the ZOI. The final ER document will also be clear that the lake is part of the project ZOI. The operating plan commits to follow natural lake levels at all times, subject only to a daily operating variation of +/- 5 centimetres as described in the Operating Plan.

- *The plan is not explicitly clear on what the operational range will be in the head pond, particularly adjacent or immediately upstream of the dam. It is noted that the lake level may fluctuate +/- 5cm. This should be provided for both periods (operational and non-operational periods.) [Rob Schryburt - April 9, 2013 email]*

The level of detail requested would require the detailed design parameters for the weir structure. It should be understood that it may be necessary to lower the water level at the weir structure to achieve sufficient hydraulic gradient, especially under high flows. This means that during flood flows, the water level at the weir will be significantly lower than the lake level. Under operating flows, this difference in level is quite small. A preliminary hydraulic model to this effect is included in the appendix of the EA documentation (see HEC-RAS model outputs.) A final model will be presented during the detailed design and as part of Plans & Spec approvals (LRIA legislation.) Xeneca has agreed to monitor the lake level since the lake seems to be the relevant point for most stakeholders.

- *A graph, similar to Figure 7, would be helpful in visualizing the fluctuating head pond levels throughout the year and throughout the day. [Rob Schryburt - April 9, 2013 email]*

Graphs showing the natural lake levels and superimposed operating fluctuations were shown in the EA stakeholder consultations. These figures are included in other parts of the EA documentation.

Operations During the Spawn

- *Providing the initial trigger is changed to 4°C & active spawning temps for walleye are changed to 6 to 12°C, we support the temperature / timing formula for spring run-of-the-river operations presented in Appendix 2 of the draft operating plan. However, the operating plan needs to be modified to reflect Xeneca's commitment to extend "true" run-of-the-river operation (i.e. inflows = outflows instantaneously at all times) through to the end of June to cover sturgeon incubation, hatch, and swim up. Should the sturgeon drift window extend beyond June 30th as determined using the temperature / timing formula presented, we have agreed to some operational flexibility (i.e. modified operations with a maximum daily range of 20 cms - no intermittent ops.) [Outstanding Operating Plan Considerations]*

The proponent believes that this issue was discussed and resolved. The Operating Plan commits to OWA defined true run-of-river during Lake Sturgeon spawning and to 'no intermittent operation' with a maximum daily range in flows of not more than 20 cms during incubation, hatch and swim up. The true run-of-river during spawning will ensure that no flow disturbance occurs during this critical stage. Lake Sturgeon eggs are laid fairly deep, at depths of 0.6-4.6 meters (Scott & Cossman, 1979.) Once the eggs

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are laid they need to remain wet until hatch. Given the depth of egg deposition, the proposed commitment to 'no intermittent operation' will ensure significant flows and adequate wetting of the channel during incubation, hatch and swim up. (It should also be noted that no Lake Sturgeon spawning has actually been documented anecdotally or through various scientific studies at the project site.)

It should be noted that the Lake Sturgeon population in this part of the river system has been at critically low numbers for a long time. Very little, if any, recruitment appears to have occurred in the past 25 years. The cause of this worrisome population decline is not understood and clearly not related to the proposed project. The proponent is in discussions with First Nation as well as non- government stakeholders to participate in a possible Lake Sturgeon initiative. The scope of the initiative would be broader then maintaining spawning sites. It would focus on a variety of ideas or options to bring up Lake Sturgeon numbers. The proponent believes that this type of approach will be more meaningful than additional efforts on spawning sites that are not being used.

- *Section 7.2, Page 25 - Top paragraph re: operating constraints during the spawn should more specifically state spawn, incubation, hatch, larval development to free swim, and drift. [Wayne Selinger - April 17, 2013 Operating Plan Review]*

Please refer to above response.

Minimum Environmental Flows

- *As proposed, MNR Sudbury District accepts the Downstream Operating Parameters listed in Table 5.*

Noted, thank you.

- *It should be noted that all dialogue to date regarding minimum or environmental flows has assumed that the minimum flow ultimately agreed on will be a 'non-generating' flow. Specifically, it is below the minimum turbine capacity presented under the current design and as such represents a loss of generation potential to the proponent and province. The level of ecological risk that we accept is based to a degree on that assumption. Should there be a design change prior to final approval of the facility that allows the proponent to make use of minimum flows for generation (i.e. a low flow turbine), we reserve the right to revisit the minimum flow agreement and the amount of ecological risk that we are accepting based on the new design / assumptions. [Outstanding Operating Plan Considerations]*

Noted, thank you. The proponent will provide a detailed design for Plans & Spec approval (LRIA legislation) post-EA, and would welcome the relevant discussions.

- *It is stated that during very low flow periods there will be no operation and any flow will flow over the spillway. It is unclear if the compensation flow of 2.0/0.5 m3/s (depending on what season) will be sufficient for the downstream aspects. The concern is that if this flow is controllable then it could simply be stopped. If it is to spill over the dam or a weir then the*

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concern could be that the turbine will stop when there are low flows, and at the bottom of the operational range, and therefore there could be no flow over the dam or weir until the head pond rises to that level. Bottom line is that if the compensation flow is needed at all times then it should be by way of a low level orifice so that it will flow unrestricted at all times. [Rob Schryburt - April 9, 2013 email]

Good comment. The conceptual design envisions an orifice of some type in the weir to provide compensatory flow (Q_{comp}) in the spillway area (circulation flow for the deep pool in that location.) The orifice would allow a range of flows 0.5 to 2.0 m^3/s to be discharged to meet the commitments in the Operating Plan. Flows below 2.0 m^3/s have not been recorded; hence there would likely be additional flow even during severe drought. The additional flow would first be handled through a valve in the powerhouse. The valve would be sufficient in size to allow downstream minimum flow (Q_{EA}) requirements to be met (i.e. the compensatory flow plus an additional amount to ensure the committed minimum flow rates.) As flows increase above the minimum flow, but below minimum turbine flow (QT_{min}), it would spill over the weir.

The above comments are consistent with the information provided in the Operating Plan, the ER and the information provided to stakeholders. Additional detail will be provided to MNR during the detailed design at the stage of Plans & Spec approval (LRIA legislation.)

Spillway versus Tailrace Flows

- *Agreed upon environmental flows need to be split or distributed between the spillway and tailrace (i.e. QEA versus QCOMP.) While the proposed close coupled design does not include a bypass channel, we still need to explore the final design of the spillway and tailrace in relation to available habitat and the need for spillway flows under all operating modes. The point(s) of discharge will affect both the function of the plunge pool and tailrace habitats and this split needs to be considered in conjunction with the habitat compensation works associated with project design. The potential implications of concentrating tailrace flows through the critical spawning habitat on south side of channel also need to be considered - The concern being whether the resulting tailrace velocities during high flows will exceed suitability for walleye or sturgeon spawning.[Outstanding Operating Plan Considerations]*

The Operating Plan has been presented as "draft." It is understood that the Operating Plan will be subject to further agency discussion and possibly further stakeholder consultation when the Water Management Planning (WMP) process concludes (post-EA.) It is also understood that further discussion on flows will occur during Plans & Spec approval, once the engineering design details are presented and the turbine model specifications are available. In addition, DFO may require further detail during the implementation of the fish habitat compensation plan, which is included in the EA at a conceptual level.

Walleye spawning occurs during the spring freshet flows. At that time, the flow in the river significantly exceeds the turbine capacity. Hence, the majority of flow must be directed over the weir. The structure has been designed as a broad crested weir/spillway such that the flow is distributed over the width of the river as it would be under existing conditions (i.e. and not limited to a specific spot as would be the

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case with a gated design.) The tailrace structure on the powerhouse is designed to decelerate the flow that exits the turbine to a velocity of 0.5 to 1.0 m/s. This range of velocity is usually low enough to minimize erosion concerns but fast enough to be ideally suited for spawning.

During summer low flows, the primary objective is to maintain flow and circulation across the river. The Q_{comp} commitment will ensure that water circulates on the north side of the dam. The QEA and powerhouse will ensure that water circulates on the south side of the dam. This proposed flow splitting will minimize the risk of creating high temperature spots or localized depletion of oxygen. The proponent welcomes any further discussion on this topic that MNR may have as part of the Plans & Spec stage of the project.

- *This [The potential implications of concentrating tailrace flows through the critical spawning habitat on south side of channel also need to be considered - The concern being whether the resulting tailrace velocities during high flows will exceed suitability for walleye or sturgeon spawning] is still of concern and needs to be considered in conjunction with the habitat compensation plan. [Wayne Selinger - comments on "Outstanding Operating Plan Considerations"]*

Please see response to previous comment.

- *Sections 4 & 5, Pages 10-12 regarding spillway / tailrace allocation & downstream flow are very generic and should be reviewed to ensure consistency with the actual terms of this project. Examples:*

    - *Page 10 - Text indicates that at very low flow when the plant is not generating, all inflow will be directed over the spillway structure. Is this the case? I was under the impression based on past dialogue that with exception of defined QComp and flows beyond QTmax that all bypass flows would be going through the generating station. Which is it?*

The Q_{comp} will exit through an orifice in the spillway structure at all times. The QEA flows will be provided through a valve in the powerhouse. Any flow in excess of the powerhouse capacity will pass over the spillway. This will be clarified in the Operating Plan.

    - *Page 11 - Re: intermittent operations, text identifies daytime flow could be 10+ times greater than at night. The maximum range of daily flows agreed upon for this project is 5 fold.*

Yes, the sentence was written before the higher minimum flow numbers were agreed to. This sentence will be updated for future draft revisions (during the finalization of Water Management Planning.)

    - *Page 12 - Refers to sizing of bypass flows. There is no bypass channel associated with this project. [Wayne Selinger - April 17, 2013 Operating Plan Review]*

The comment is correct, there is no bypass channel. However, there is a commitment to provide

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compensatory flow (Q_{Comp}) through the spillway structure at all times for ecological purposes which is equivalent to a bypass flow.

Range of Daily Fluctuation & Peaking Flows

- *Xeneca has committed to a maximum fluctuation of +/– 5 cm in Wabagishik Lake, +/– 15 cm in the wetland area downstream of the tailrace, and +/– 5 cm in the Domtar head pond below Graveyard Rapids. Per the additional peaking scenarios submitted by Nava Pokharel on October 29, 2012, turbine flow for intermittent ops will be limited to a maximum of 25 cms (rather than 41.6 cms) in order to achieve these compliance targets. These commitments need to be clearly articulated in the operating plan included with final ER. [Outstanding Operating Plan Considerations]*

The comment is correct; the maximum intermittent flow rate has been constrained to 25 m^3/s. This commitment is clearly stated in Table 5 of the draft Operating Plan.

- *Even with these operating constraints there is outstanding concern re: loss of existing benthic production and foraging opportunities in the 400m of high quality riffle / rapid habitat located immediately below the proposed generating station where the predicted water level fluctuations are highest. Habitat of this quality and nature is not present elsewhere in the 5 km of the Vermillion River downstream of the proposed generating station (nor in the Spanish River between Nairn Falls and Espanola for that matter.) A sizeable portion of this habitat will be dewatered daily thereby severely compromising its function and productivity. Based on recent DFO input (per letter from Kelly Eggers January 2, 2013), the proponent will be required to compensate for the functional loss of this feeding habitat; an alternative being to lower the river bed in the horseshoe-shaped area in question to a point where the invertebrate production site remains wet at the proposed minimum flow. We recommend that this alternative be explored. [Outstanding Operating Plan Considerations]*

The proponent is prepared to look at this alternative as part of the compensation plan implementation and work with MNR and DFO during permitting. However, it should be noted that the horseshoe shaped area that dewaters during intermittent operation also dewaters naturally under very low flows. Detailed modeling was requested and carried out for this area. The model clearly shows that the horseshoe area dewaters naturally under existing conditions whenever flow rates drop below 10 m^3/s. Photos were provided to MNR from a 2012 field trip that shows this area dewatered under natural conditions. Flows below 10 m^3/s occur during certain prolonged summer dry spells, whenever the level of Wabagishik Lake upstream drops to near the invert elevation of the natural outflow. Furthermore, the proponent has agreed to provide minimum flows of 5 m^3/s at all times. The low flow in 2012 was less than this figure (under existing conditions,) indicating that a reasonable minimum flow target has been agreed to between the agencies and the project. Nonetheless, there may be merit in examining this area as part of the overall habitat compensation planning that the proponent has committed to in the EA, and the proponent is looking forward to collaborating with MNR and DFO on this matter after the EA.

Intermittent versus Modified Operations

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- *The approved operating plan for the site needs to be clear that the agreed upon minimum flows only apply to time frames where available flows to the generating station are below minimum turbine capacity (19.2 cms.) When flows are above 19.2 cms, the plant must operate continuously between minimum and maximum turbine capacity (range 19.2 cms to 64.0 cms.) [Outstanding Operating Plan Considerations]*

Agreed. This commitment is contained in the operating plan as presented (in the text, in Table 7 and in the operating profiles for various flows as presented in Appendix 1.)

Frequency of Operating Cycles

- *It is very important that the various compliance commitments regarding water level fluctuations (see range of fluctuation and peaking flows above) are met thru establishment of a defensible minimum flow & a reduced daily range of flows rather than thru multiple peaking cycles. Multiple cycles or peaks per day would present increased risk to the integrity of the aquatic ecosystem, erosion, public safety, etc. Xeneca has agreed to one cycle per day & one flow increment per cycle. It is also our understanding that storage will not occur for more than 24 hours (i.e. total inflows = total outflows over a 24 hour period) even on weekends and holidays when power demand is lower. [Outstanding Operating Plan Considerations]*
    - *These constraints should to be added to Table 6 [Wayne Selinger - comments on "Outstanding Operating Plan Considerations"]*

The comment is correct, Xeneca has committed to run a single daily operation cycle and not multiple operation cycles. Xeneca also committed to step up to the minimum rate required so as to process the necessary quantity of water during the daily electricity peak cycle (8 hours.) The operating curves in Appendix 1 of the Operating Plan were amended accordingly. Table 7 was also added to provide the information in numeric format and for additional scenarios (dry, normal and wet weather.) Section 2 of the report clearly stipulates that the daily volume of natural inflow will equal the daily volume of outflow (i.e. no multi-day storage.) We trust that this clarification provides confirmation of the operating commitments made.

Ramping Rates

- *Looking at Section 5, there would certainly be some ramping rate concerns looking at the flow manipulations discussed here. [Rich Pyrce (MNR NESI), March 19th, 2013]*

This comment was also made during the agency consultation meetings and Xeneca responded by increasing the ramping period was increased from 20 minutes to 60 minutes which is reflected in the updated draft Operating Plan in Table 2. In addition, the proponent has committed to a single operating cycle each day (as opposed to multiple cycles) and to minimize the daily differential between maximum and minimum flow rate by distributing the maximum flow over an 8 hour period and avoiding intermittent operation until inflow drops below 19 m^3/s and by increasing the minimum flow during

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intermittent operation from 3 m^3/s to 5 m^3/s+ (depending on the applicable month.) The related information is contained in Section 2, Section 7, Table 2, Table 5, Table 7 and Appendix 1 of the Operating Plan.

Erosion

- *Section 1.1 Page 4 - Erosion concerns appear to be outstanding at this point. Note references on page 4 and page 7 to desktop erosion survey upstream but what about downstream where implication of peaking will be greatest? Recall commitment in response to our draft ER comments re: additional consideration of erosion so perhaps there is more to come in the final ER. [Wayne Selinger - April 17, 2013 Operation Plan Review]*

The following responses have been given in response provided to MNR (see following this paragraph.) Following multiple years of study and analysis, Xeneca is confident that there is no issue with respect to erosion. The river geomorphology is very stable and well armored with exposed bedrock and large cobble. The water level fluctuations downstream that are related to operation are well within the existing shoreline and substantially smaller in range than the seasonal fluctuation. The shoreline fluctuations are also in the same range as the daily operation band of the Domtar Dam (+/- 15 centimetres or +/- 6 inches.) Xeneca has retained a professional geomorphology company (Parish Geomorphology) to inspect the upstream and downstream sections of the river and express an opinion. This work was recently completed and will be included in the final EA report. The work confirms the earlier information provided and concludes that there is no notable erosion concern. If MNR continues to be concerned about this matter, then the proponent would consider a monitoring program as part of permitting and other post EA discussions with agencies.

Further to this response, please see below for Xeneca's Response to MNR's comment on our draft ER for Wabagishik:

> ***MNR Draft ER Comment**: Erosion potential, shoreline stability and scour will require closer examination. Should also be considered in the context of the Operating Plan. How will ramping rates and water level fluctuations impact shorelines?*
>
> **Xeneca's response to MNR Draft ER comment**: Erosion potential has been assessed for this project at a screening level and no significant concern was identified related to the new inundation or the long term operation of the project. The changes in downstream flows resulting from project operation are within a range of flow rates that are much smaller than the flow rates that would cause downstream erosion or result in changes to channel formations. Similarly, the changes in levels resulting from facility operation have been hydraulic modeled. The model results show that the level fluctuations due to operation are less than half of the level fluctuations that occur naturally. Also, the fluctuations occur at the low and medium range of levels normally experienced by the river channel. The river channel is very stable in at these levels and no concern for downstream erosion exists within this level range. To further mitigate and address any possible concern, the Operating Plan commits to limit the changes in flow rate so as to further constrain the change in levels resulting from operation. With the restrictions

imposed in the Operating Plan, the maximum fluctuations in water level occurring downstream will be less than one quarter of those occurring naturally. This imposed constraint provides further assurance that the proposed flow rate changes resulting from operation are safe and will not cause downstream erosion.

Erosion due to upstream operation was determined not to be an environmental risk factor. The upstream operation involves following natural lake levels throughout the year. Hence no seasonal change in water levels is proposed in the Operating Plan. The plan does propose fluctuating upstream water levels daily, but only +/- 5 cm. This very small change in level is not deemed to have any measurable effect on shoreline erosion, as it is less than fluctuation from boats, waves and wind set up that occurs naturally on daily basis.

Erosion due the inundation was assessed by examining the geologic maps, slopes and proposed levels. The proposed new inundation for this project is very small and extends from the dam to the outlet of Wabagishik Lake, a distance of about 800 meters. New inundation depth ranges from 0 meters at the lake outlet to 6 meters at the dam. The south shoreline consists largely of bedrock with very small localized deposits of sand. No appreciable erosion is expected along the south shoreline. Along the north shoreline, the shoreline consists of bedrock with the higher elevations being covered by a thin veneer of sand and gravel. Only in a small shoreline section in close proximity to the dam will the new inundation shoreline exist in the sand and gravel veneer. Given the thin nature of the sand and gravel veneer and the underlying bedrock, very minor and localized erosion could occur within 250 meters upstream of the dam site. This area will be examined more closely during detailed construction planning. If necessary, steps will be taken to either stabilize any affected location or to monitor it during project operation. However, a significant environmental concern related to inundation related erosion does not appear to exist due to the proposed inundation.

Xeneca is developing a long term erosion measurement program as part of a due diligence program by comparing pre-post construction levels. Baseline studies have been done and Xeneca is involved in verifying these results over the initial operating period.

The following is an extract from an email that sent on April 29 re. Wabagishik Compensation Plan Teleconference - energy dissipation in plunge pool:

Spillway: In a typical spring, approximately one-third to two-thirds of spring flood flows are directed over the spillway. The splitting of flow to the powerhouse means that less energy needs to be dissipated than under existing conditions. However, the height of the spillway means that some new energy is added to the remaining flow. The design of the spillway is carefully planned to ensure that excess energy is dissipated in the spillway structure such that the final exit velocities and energy levels are consistent with existing conditions. During the detailed design process, the pre- and post-project velocity calculations are compared and the design refined until the right amount of energy dissipation has been achieved. As a result, no negative erosion or sedimentation impact is expected in the pool area located downstream of the spillway.

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Compared to larger projects in Ontario with hundreds of MWs, the Wabagishik project is small (3.4 MW) and has a low head (6 meters.) As such, the total amount of energy to be managed at the site is not large from an engineering design perspective. Designing exit velocities in the spillway area that are similar to existing conditions is achievable and does not present any special challenges such as erosion or sedimentation that would have to be addressed in the EA. Any further aspects will be addressed in the detailed engineering design phase of the project.

From Bob Robinson's list of 21 Issues in January:

***MNR Comment**: Erosion potential, shoreline stability and scour will require closer examination. Should also be considered in the context of the Operating Plan. How will ramping rates and water level fluctuations impact shorelines?*

Xeneca Response: Responded to this issue with email sent to agencies on February 27. Erosion potential has been assessed for this project at a screening level and no significant concern was identified related to the new inundation or long-term operation of the project.

Possible Effects Downstream of Espanola

- *The final ER should try to address the identified potential risk that proposed peaking activity in the Vermillion could modify the flow regime of the Spanish River below Espanola. Domtar's generating station operates using automated head pond control hence they pass modified flows arriving to their headpond. While measures agreed upon to soften peaking activity in the Vermillion will alleviate concern relating to the Spanish River below Espanola to some extent, the potential implications of Xeneca's proposed operations as additive to fluctuations already arising from Vale operations in the Spanish River should be acknowledged and evaluated. Xeneca has suggested that the timing of their pulse will off-set current head pond fluctuations resulting from Vale operations upstream. To date MNR does not have sufficient supporting information in this regard. Xeneca has also committed to pursuing agreement with Domtar to ensure the magnitude of daily flow variation below Espanola does not increase. And, the draft ER references a commitment to run-of-the-river operation during 'drought conditions' in order to accommodate boating use in the Vermillion and effluent treatment at Espanola but there is little detail provided as to what this means. The operating plan included with final ER needs to provide clarity around these commitments and formal Domtar concurrence with Xeneca's proposed operations is required prior to LRIA approval. [Outstanding Operating Plan Considerations]*

The Domtar Dam is not on automated headpond level control. This comment was addressed with a detailed analysis presented in a letter from Xeneca to MNR dated March 12, 2013. The analysis uses operating data provided by Domtar. The data shows that the Domtar Dam is actively operated on a daily basis with flow rates ranging from minimum to maximum turbine output under various inflow conditions. On many days, the Domtar Dam uses the maximum available headpond operating band to shift production to hours of high electricity usage (daytime.) The analysis further showed that the maximum variability of the flow rate of the proposed Wabagishik project is less than half the maximum

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variability observed under existing conditions at the Domtar Dam.

This same analysis also determined that the proposed Wabagishik project will not increase the maximum daily range of outflow at the Domtar Dam (the maximum at Domtar Dam is limited to the maximum turbine output which is reached on many days.) It was found that on certain days (when the Domtar Dam discharges less than the maximum turbine capacity during daytime hours), the daily operation at Wabagishik could result in a larger flow variability at the Domtar Dam; however, this could be mitigated by the Domtar Dam running longer at the existing rate rather than running higher. The analysis illustrates that Wabagishik has very limited effect on the range of downstream fluctuation that occurs at the Domtar Dam under existing conditions. Where an effect could result, the decision rests with Domtar and is beyond the control of the proponent of the Wabagishik project. The proponent is prepared to discuss this matter further during the LRIA approval process and during water management planning. Xeneca is only one of several facilities operating within the watershed and, as such, a coordinated and collaborative approach under Water Management Planning would achieve the best results and minimize effects on Domtar and areas downstream of that facility.

- *The concern re: possible effects at and downstream of Espanola seems unresolved to date. This includes both Domtar's concerns re: generation & dilution as well as ecological concerns re: modification of flow regime below Espanola. It is my understanding that some additional dialogue between Xeneca and Domtar and perhaps MNR is in the works [Wayne Selinger - April 19 email:]*

The proponent has presented extensive modeling and analysis specific to this issue. The work clearly shows that the minimum flow requirements downstream of the Domtar Dam are not impaired by the proposed project. The minimum flow values were discussed and agreed to in agency meetings. The proponent has extensively consulted with Domtar on the proposed project, the Operating Plan and the flows. Domtar is now in the process of engaging a third party review of the information which can be expected to leads toward an agreement, the terms of which have been shared with MNR. Furthermore, the Water Management Planning process also presents an opportunity for MNR to revisit this aspect if required.

- *A request was made during a Wabagishik Rapids all-agency meeting with Xeneca on February 27 & 28, that I [Ryan Stainton] examine available flow and level data from Domtar's Espanola Generating Station (GS.) The purpose of this analysis was twofold. Firstly, this was to characterise the existing range of flow variability in the headpond and downstream of the site, and secondly to attempt to assess the degree of alteration from Xeneca's Wabagishik Rapids facility on existing operations and hydrologic variability downstream of the Espanola GS. Analyses were performed, and statistics and graphics have been generated. However upon further review and consideration it became apparent that without key information on the timing of flows from existing facilities on the Spanish River and contributions from Xeneca's proposed Wabagishik facility, hydrologic statistics describing the potential effect of Wabagishik Rapids on and downstream of Domtar would be speculative at best.*

Detailed analysis presented in a letter from Xeneca to MNR dated March 12, 2013, uses operating data

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provided by Domtar and includes timing of flows. The data shows that the Domtar Dam is actively operated on a daily basis with flow rates ranging from minimum to maximum turbine output under various inflow conditions. On many days, the Domtar Dam uses the maximum available headpond operating band to shift production to hours of high electricity usage (daytime.) The analysis further showed that the maximum variability of the flow rate of the proposed Wabagishik project is less than half the maximum variability observed under existing conditions at the Domtar Dam. It was also found that the proposed Wabagishik project will not increase the maximum daily range of outflow at Domtar Dam (the maximum at Domtar is limited to the maximum turbine output which is a level currently operated to on many days.) It was found that on certain days (when the Domtar Dam discharges less than the maximum turbine capacity during daytime hours), the daily operation at Wabagishik could result in a larger flow variability at the Domtar Dam; however, this could be mitigated by the Domtar Dam running longer at the existing rate rather than running higher. The analysis illustrates that Wabagishik has very limited effect on the range of downstream fluctuation that occurs at the Domtar Dam under existing conditions. Where an effect could result, the decision rests with the Domtar Dam and is beyond the control of the proponent of the Wabagishik project.

Xeneca urges MNR to meet and discuss this information that has been provided to clarify any uncertainties. The proponent is prepared to discuss this matter further during the LRIA approval process as long as it is recognized that the proponent cannot be held responsible for the dam operation of a facility that is not operated by the proponent. As noted on the previous page, Xeneca is only one of several facilities operating within the watershed and, as such, a coordinated and collaborative approach under Water Management Planning would achieve the best results and minimize effects on Domtar and areas downstream of that facility.

- *I [Ryan Stainton] spoke with Domtar's dam operator, David Bench on March 19. David was able to elaborate in detail how they currently operate their facility in close communication with the three upstream Vale facilities on the Spanish River. He expressed a high degree of concern about the proposed flows that they would receive from Xeneca's facility on the Vermillion River. Particularly of concern were those flows during low flow periods in the summer, at times when Xeneca would be storing water and contributing minimum flows to their headpond. He stated that Domtar would have to considerably alter their existing operating regime to meet flow requirements downstream for effluent dilution, while generating power to keep voltage up (VARs) to power their mill. He also indicated that the coincidence of peaking flows from Xeneca's facility and the Spanish facilities will likely cause them to spill when levels reach a specified threshold, increasing the range in magnitude of flows downstream from what they currently are.*

Xeneca has consulted extensively with Domtar for the past three years and is aware of the above concern. The Operating Plan has been provided to Domtar for review along with extensive modeling studies. Xeneca has proposed pragmatic solutions and has offered Domtar a Memorandum of Understanding (MOU) that specifically addresses the issues raised. Domtar has hired a consultant, at Xeneca's expense, to review the MOU to provide assurance that it will address the concern. Xeneca has taken every reasonable step to demonstrate that it has met the requirements of the EA stakeholder consultation process and achieve consensus with Domtar.

Key Hydrology Messages:

- *With regard to the potential effect of flow alterations from Xeneca's proposed Wabagishik Rapids facility on the hydrologic regime downstream of Domtar's Espanola GS, after much consideration, it has been concluded that hydrologic analyses for the purposes of defining the ZOI and negotiating a preliminary Dam Operating Plan using currently available data sources would be speculative. In the absence of data from existing upstream waterpower facilities operated by Vale, and more detailed information regarding physical attributes of Domtar's headpond, combined with more detailed daily operating scenario information from Xeneca, it would be premature to predict the overall effect of the Wabagishik Rapids facility on Domtar's operations, their headpond and the flow regime in the riverine environment downstream of the Espanola GS. It is our assertion that the assessment performed by Xeneca and presented in their Memo dated March 12, would also be speculative without this additional information.*

- *See further comments on this issue under Evaluation of Flow Fluctuations at Domtar Dam due to Wabagishik GS Operations (Memo)*

It is the proponent's understanding that MNR, Domtar and Vale have been negotiating for eight years on a Water Management Plan. During that period, no routing study was done or imposed on the participants. It is also clear that the routing study would require information on the operation of the various dams on the system that the operators have not made available. The missing data includes operating limits and operating profiles for the various facilities, without which a routing study is even more speculative than the actual operating data for the Domtar Dam as already presented. Xeneca would like to be treated in the same manner as the rest of the dam operators on this river system. It is a challenge for Xeneca to complete this task in isolation; the underlying data is simply not available.

The available operating data of the Domtar Dam clearly shows that the daily range of flows discharged at the Domtar Dam is much greater than the range of flows proposed by Xeneca. It is also clear that the only operating restriction in place is a headpond operating band. Hence there is no limit on daily flow range, ramp rate or operating profile for the existing operation. The operation of the Domtar Dam is not subject to any regulatory operating constraints that would be directly impacted by the proposed Wabagishik project. Commitments made by Xeneca in the ER show how that the proposed operation at Wabagishik will not force Domtar to change the operation of its dam in a manner that will cause additional flow variability or ecological impacts greater than those already experienced due to the existing condition. As previously explained supported by extensive study, Domtar's operations not be adversely affected by Xeneca's operations.

Public Safety and Recreation

- *Note: This review is primarily a biological review with only limited consideration of potential concerns relating to private property, civil structures, public safety, navigation, flooding, etc. [Wayne Selinger - April 17, 2013]*

Xeneca has carried out extensive stakeholder consultation for the past three years that is fully

documented in the EA. The project is subject to post-EA permitting requirements under LRIA which specifically addresses riparian landowner interests. Extensive discussion with the other operators of facilities within the watershed has also occurred and is ongoing.

- *More details are needed around dealing with the higher flows. It is stated that for extreme floods, the facility will be prepared in advance of the flood to maximise the ability to pass water however it is not clear on what is being considered for the preparation. [Rob Schryburt - April 9, 2013 email]*

Such detailed engineering design information will be provided in the post-EA permitting requirements (Plans & Spec approval) under LRIA.

- *There is a flood flow indicated as Q1:100 but it is not certain if this is in reference to the IDF for the dam. [Rob Schryburt - April 9, 2013 email]*

Such detailed engineering design information will be provided in the post-EA permitting requirements (Plans & Spec approval) under LRIA.

- *More details on the high flood flows and IDF are needed i.e., when to invoke or consider using the Emergency Preparedness Plan (EPP.) [Rob Schryburt - April 9, 2013 email]*

Such detailed engineering design information will be provided in the post-EA permitting requirements (Plans & Spec approval) under LRIA.

- *Section 5.3, Page 12 - Add boating under discussion of public safety considerations associated with variable flows. [Wayne Selinger - April 17, 2013]*

Boating is further discussed in the EA as part of the public stakeholder consultation section. Design of portage routes, placement of safety booms etc. are included in the ER and Xeneca is working closely with Transport Canada to ensure requirements of the Navigable Waters Protection Act (NWPA) are met.

- *Section 5.3, Page 13 - States that intermittent operations will primarily occur during the winter months when recreational use is limited. This is clearly an incorrect statement with intermittent operations also proposed in summer / early fall, peak recreational season. The statement re: a higher summer QEA is also incorrect given latest discussion around minimum flows. [Wayne Selinger. - April 17, 2013]*

Noted; thank you. This will be corrected before the Operating Plan becomes final (at end of Water Management Planning process after the EA.)

- *The wording at the bottom of Page 25 is a concern: "It should be recognized that the facility is not designed to mitigate the effects of naturally occurring events such as floods and droughts." I believe the dam must be able to accommodate flood discharges up to the IDF? This statement should be considered for removal. [Rich Pyrce (MNR NESI), March 19th, 2013]*

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The comment refers to the lack of available operating storage and is correct as intended. In order to use a waterpower facility for flood management, the available storage must be drained prior to spring freshet to absorb excess water and distribute it to a later time. This is not possible with the proposed facility. Similarly, for droughts, water would have to be saved from high flow periods and release in low flow periods. Given the recreational uses on Wabagishik Lake, it would seem unlikely this would be compatible with existing land and water uses. However, Xeneca would be pleased to discuss further during the appropriate time within the WMP process.

Seasonal Operations

- *Table 3 indicates that the facility will be Run of River 22% of the time. It might be more worthwhile to investigate the most recent 10 or 20 years, considering recent drought trends etc. [Rich Pyrce (MNR NESI), March 19th, 2013]*

Noted, thank you. It is clear that hydrologic cycles vary depending on the period of record and that the recent period of record has been drier than the previous period. The 22% figure was based on the period of record used (WSC dataset.) The 22% figure is only presented for illustration purposes and has very little impact on the remaining analysis in the Operating Plan. None of the compliance curves or operating profiles would change. The number has no further impact on the environmental effects assessment in the EA.

Downstream Operation Parameters

- *Section 7.2, Downstream Operating Parameters - Figure 7 does not appear to reflect agreed upon limits to downstream operations. For example:*
    - *Minimum operating target does not reflect latest QEA values as presented in Table 5.*

Noted, thank you. This will be updated for inclusion in the final ER.

    - *Maximum operating target does not reflect new QTL = 25 cms for intermittent operations.*

Noted, thank you. This will be updated for inclusion in the final ER.

    - *Should a minimum operating target be shown at all during spring spawn run-of-river period? [Wayne Selinger - April 17, 2013]*

Spawning is dealt with separately in Appendix 2 and referenced accordingly in the main text.

- *Section 7.2, Table 5 - Based on calculation of residence time for the spillway pool at QComp = 0.5 cms (Nava Pokharel - March 19, 2013), it would seem reasonable to accept the proposed QComp values (i.e 2.0cms for spring, 0.5 cms in summer, fall, winter) as a valid starting point with*

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monitoring. It will be necessary to incorporate a variable release valve into the spillway design given the 2.0cms spring requirement. With monitoring for pool function below the spillway, this variable release valve would allow an increase in spillway flow allocation in summer, fall, winter should it be necessary at a future date. [Wayne Selinger - April 17, 2013]

Good comment. Xeneca is aware that Q_{comp} needs to be provided through a variable flow valve and this will be incorporated during the detailed design stage.

- *Section 7.2, Table 6, Operating Constraints*
    - *Consider including the +/- 5 cm constraint on the lake?*
    - *Consider including commitment to one cycle per day & one flow increment per cycle.*
    - *Consider including a commitment that storage will not occur for more than 24 hours (i.e. total inflows = total outflows over a 24 hour period) even on weekends and holidays when power demand is lower.*

Table 6 was intended to deal specifically with commitments not made elsewhere in the document. However, the commitments are part of the proposed operation.

- *Table 6. indicates that all downstream modelling will be confirmed by actual data within the first year of operation. What options are available if the modelling is found to be in error or significant error? Much of the details discuss ±5 or ±10 centimetres etc. which seems too general. The transducers will be logging the current level information which needs to be continually examined once the dam is in place and the G.S. is operating. [Rich Pyrce (MNR NESI), March 19th, 2013]*

The proponent will be responsible for the compliance commitments made in the EA; MNR can include the EA requirements in the approvals issued during the permitting stage.

- *Section 7.2, Table 7*
    - *Consider expanding table over 2 pages to improve readability.*

Will be done in next version (in WMP process.)

    - *Table does not reflect latest QEA values as presented in Table 5.*

Will be done in next version (in WMP process.)

    - *Table needs to include some reference to run-of-river requirement during spawning window (currently shows modified operations in May and June.) [Wayne Selinger. - April 17, 2013]*

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This aspect is already covered in Appendix 2 (referenced in Table 6) which is clearly stated to take precedence over all general requirements.

- *On Table 7 there are proposed unrestricted and restricted operations however it is unclear on what this is in reference to i.e., will Xeneca be operating with unrestricted or restricted flows. [Rob Schryburt - April 9, 2013 email]*

"Restricted" refers to operating restrictions proposed within the body of the Operating Plan. Without the restrictions, the operation would simply be dictated by the upstream inflow rate. Table 7 was requested by the MNR District Office to provide further illustration about the operating profiles under various conditions (dry, wet, normal.) The table is intended to supplement the operating profiles presented in Appendix 1. The intention of developing Table 7 was to simplify the presentation of the additional scenarios requested by the District.

Appendix 1, Operating Scenario Graphs

- *In Appendix 1. the Operating Scenario Graphs are appreciated and helpful. Much further thought will be given to these upon receipt of the final EA, plus consultation with District staff as needed. [Rich Pyrce (MNR NESI), March 19th, 2013]*

Noted, thank you.

- *Graphs still showing old QTL line at 41.6cm although the target outflow lines do seem to reflect the latest agreement re: QTL = 25 cms. [Wayne Selinger - April 17, 2013]*

Noted, thank you; it will be fixed in the next version (in WMP process.)

- *Graphs also should reflect the latest monthly QEA values as presented in Table 5. [Wayne Selinger - April 17, 2013]*

Noted, thank you; it will be fixed in the next version (in WMP process.)

- *Acknowledge that operating scenarios do seem to reflect commitments re: one cycle per day & one flow increment per cycle but are these 'scenarios' enforceable? This commitment along with commitment to pass all incoming water over a 24 hr period should also be reflected in Table 6 - Operating Constraints (see above.) [Wayne Selinger - April 17, 2013]*

The next version will include the commitments in Table 6 (in WMP process.)

- *Scenario for June shows modified operation. Need to reference run-of-river requirement & maximum 20 cms operating range for spawn / drift periods as defined in Appendix 2. [Wane Selinger. - April 17, 2013]*

Please see note on Lake Sturgeon drift in previous response on the topic. This will be updated for the Final ER.

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Other

- *Section 2, Page 6 - Generic intermittent mode discussion specifies that generating flow would be less than Q_{Tmax} but could go on to specify Q_{TL} = 25 cms for this project. [Wayne Selinger - April 17, 2013]*

Table 5 specifically states this.

- *Figure 5. – Does this figure display actual modelled data? [Rich Pyrce (MNR NESI), March 19th, 2013]*

The graph shows actual monitoring data at Vale tailrace; this graph is not a model projection or estimate. The underlying data is available on request.

- *Email from Uwe Roeper March 14, 2013 4:18 PM (Subject: Fwd: Wabagishik Report - pdf version)*
    - *Email states: "Table 4 and related text clarify that the new inundation relates only to the channel between the lake and the dam but that the two are hydraulically connected."*
    - *Proponent still splitting hairs re: inundation vs. headpond. Clearly the lake is a functional part of the headpond for this project [Wayne Selinger - Comments on email from Uwe Roeper March 14, 2013]*

The actual amount of new inundation is as stated. The public consultation clearly shows the whole lake as part of the ZOI due to the hydraulic connection between the headpond and the lake. Extensive public consultation has occurred on the entire ZOI. Xeneca believes it is important that stakeholders clearly understand how the lake will be affected. Xeneca has committed to follow natural lake levels at all times (within +/- 5 centimetre daily fluctuation due to operations) and has made every effort to explain this as clearly as possible to stakeholders.

- *Email states: "Figure 5 clarifies that the facility will follow natural lake level at all times using a rating curve derived from monitoring data."*
    - *Defer to regional engineer / hydrologist as to whether they have satisfied prior concern re: clarifying stated intent to follow natural lake levels[Wayne Selinger - Comments on email from Uwe Roeper March 14, 2013]*

This will be dealt with at permitting stage. Full public consultation has occurred on this topic.

- *Email states: Section 2 was cleaned up to remove remnant references to storing on weekends and to clarify that all water will be released every 24 hours.*
    - *Still not black & white. Should be added to Table 6 constraints. [Wayne Selinger -*

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Comments on email from Uwe Roeper March 14, 2013]

This will be added in next version. Xeneca's commitment is firm and clear on this aspect, all water will be released every 24 hours.

- *Email states: Appendix 1 was updated so that operating graphs reflect the additional operating restrictions and so that "double hump" operation is avoided*
    - *Agree, and pleased to see this but would be clearer if also added to Table 6 constraints. [Wayne Selinger - Comments on email from Uwe Roeper March 14, 2013]*

This will be considered.

Evaluation of Flow Fluctuations at Domtar Dam due to Wabagishik GS Operations (Memo)

- *Thank-you for the opportunity to review the recent Memo from Xeneca, Re: Evaluation of Flow Fluctuations at Domtar Dam due to Wabagishik GS Operations, dated March 12, 2013. The MNR provides the following comments from our review below:*
    - *The Memo has two components, firstly the characterisation of the range of flow fluctuations downstream of the Domtar Dam at Espanola, and secondly the Ortech Environmental report entitled Vermilion River: Wabagishik Rapid – Proposed Operating Flows and Levels Charts. For the purpose of this review we have focused on the first portion of the Memo, as the latter portion represents a component of the proposed operating plan, which has since been submitted in its entirety by Xeneca for agency review.*
    - *Statistical analyses presented in the Memo confirm that there is marked daily variability in flows downstream of Domtar's Espanola generating station (GS) and associated dam, for the period 2006-2012. We have also analysed these data and our plots show similar results to those presented in graphic and tabular format in your Memo. While this variability is noteworthy it is worthwhile identifying that median and 38% exceedance values presented in Table 1 of the Memo do not differ considerably from the flow fluctuation values resulting from the proposed Wabagishik Rapids facility. Maximum flow fluctuation values presented in Table 2 of your Memo are derivatives of 'average inflow' conditions and do not necessarily capture the full range of potential daily variability that may be observed downstream of the Wabagishik Rapids site. For instance, larger 'typical' daily ranges in flow variability downstream of the site are presented in Table 7 of the proposed operating plan, for certain months of the year (Ortech Consulting Inc., 2013.)*

It should be noted that the Domtar Dam does not appear to operate according to any pre-determined operating profiles, such as we have proposed for Wabagishik. The operation appears to be decided daily

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based on electricity grid matters and water conditions. The Domtar Dam has no operating restrictions in this regard and hence it should not be assumed that the past data is entirely reflective of future operation.

- *It is important to acknowledge that flow and level fluctuations at, and downstream of, Domtar's facility are in response to flows received from upstream waterpower facilities, rather than the Domtar Espanola GS operating in isolation.*

The available data suggests that the incoming flow is only part of the picture. The Domtar Dam also adjusts operation due to daily electricity grid matters as noted above. This is part of the Water Management Planning process; all operators on the river system need to work collaboratively under WMP.

- *It is acknowledged that the Espanola GS headpond has an operating range of approximately 22 centimetres (cm.) However based on our analyses the typical operating range if examined on a daily basis is less than that due to the automated nature of their headpond level control. Frequency distribution analyses of daily range data by month show that despite the noted variability in flows, headpond levels are maintained around a target level with a median daily range of approximately 5 cm for months outside those characterised by springmelt and fall freshet flows. The daily range in levels increase to an approximate maximum of 8 cm at the38% exceedance level across all months but May. The 13% exceedance value of the daily range in headpond ranged from 11 to 14 cm across all months. These data suggest that the facility infrequently uses the entirety of its operating range, and that generally the daily range in water levels are much lower.*

We believe this is due to the manual nature in which daily operating changes are made at the Domtar Dam. It is clear from the data that manual adjustments are made to deliver more electricity during peak hours. However, because it is done manually, and not according to pre-determined operating profiles, the operation may look ad-hoc at times. If the facility were to run on level control, as it has the ability to do, the daily headpond fluctuations would be much smaller. The downstream flow discharge figures make this much clearer than the headpond level data. The headpond level changes are masked due to routing effects.

- *Xeneca asserts that during times when maximum turbine flow is reached at the Espanola GS, the operation of Wabagishik Rapids will have no additional effect on the frequency or magnitude of flow fluctuations downstream of the Espanola GS. However, the MNR suggests that such a statement is speculative at this time given the data and detail of analyses undertaken.*

As part of stakeholder consultation, Xeneca has committed to Domtar not to cause water to be spilled due to the operation of Wabagishik. Further, Xeneca has committed to return to OWA defined ROR operation if Domtar reaches the limits of its operating band (due to Wabagishik operation.) The statement made by Xeneca is correct if the Domtar commitments are taken into account. However,

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Xeneca will not be able to control Domtar. Although there is no reason to do so, Domtar could choose to spill water when it does not have to.

- *Data analysed and presented do not provide for an assessment of concurrent high and/or low flow contributions from the proposed Wabagishik site on the Vermillion River and generating stations upstream on the Spanish River, to ascertain the effect of such flows on the flow regime downstream of the Espanola GS.*

As already stated, Domtar decides its operation on a daily basis and not in accordance with pre-determined operating curves. There is no way of knowing if Domtar would make the decision on whether use extra water to extend an operating cycle or increase the flow rate.

- *A key question of concern not addressed in the Memo is the temporal distribution of flow contributions from the upstream generating stations on the Spanish River and the proposed Xeneca facility on the Vermillion River. It is anticipated that these generating stations will be contributing peak daily flows during the 11:00 am to 7:00 pm time period in response to provincial electricity needs. In this scenario, the storage of water will occur during the overnight hours and be released during the daytime period. This has the potential to affect the current water and level regime at Domtar's Espanola GS. Further study is required to gain a better appreciation of the overall effects on levels in Domtar's headpond and the flow regime in the river downstream of their dam and GS.*

The Domtar Dam operating data already shows that the dam increases production during the day (same as proposed for Wabagishik.) Hence, any flow modification by Wabagishik will allow Domtar to run its daytime production either longer or higher. Since the maximum rate is limited to the maximum turbine output, and since it is more efficient to extend runtime than to approach maximum flow rate, it is most likely that Domtar will extend the run cycle, rather than increase the rate.

- *As suggested in the Memo, a routing analysis would require additional data from Vale generating stations located upstream on the Spanish River. It is our position that without these data combined with detailed data regarding the volume and constraints of Domtar's headpond, in addition to accurate information on the timing of flows from the proposed Wabagishik Rapids facility, conclusions presented in your Memo are speculative.*

The memo is based on actual operating data which clearly shows that the existing condition of the Domtar Dam involves daily variation in downstream flow. The only speculative aspect is the additional variation that could occur due to operation of Wabagishik. Since Wabagishik is a much smaller facility with a much smaller flow range (as proposed and committed), there is no indication that it will lead to a significant difference in the range of variability (i.e. up to max Domtar turbine capacity) or frequency of variability (i.e. it is already daily and Wabagishik is daily.)

- *Concerns regarding flow and level alterations from the proposed Wabagishik Rapids facility have been expressed by at least one existing right holder, with respect to*

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potential impacts on existing waterpower operations. There does not seem to be an agreement between the parties. An agreement is essential to ensure the protection of existing rights as per Section 1.4 of the Lakes and Rivers Improvement Act (LRIA) Administrative Guide. Pursuant to Section 1.4.6 of the LRIA Administrative Guide, addressing conditions where rights to crown land have been previously granted, "applicants who wish to pursue their application are required to contact the rights holder prior to location approval being granted. Consent or authorization must be obtained from the rights holder regarding the proposed work before approval can be granted." (OMNR, 2011.) Further work is required by Xeneca to establish these formal agreements and receive consent or authorization from existing rights holders.

Thank you for the information; this will be addressed within the LRIA process rather than the EA. For the EA, extensive stakeholder consultation has occurred over the past three years.

- *Additional information would be required to inform a detailed routing analysis model to gain a better understanding of downstream flow and level alteration. This would include information such as:*
  - *hourly data from Vale's generating stations on the Spanish River, corresponding to the period of record of existing data available from Domtar*
  - *detailed information on the volume of Domtar's Espanola GS headpond*
  - *additional operational limits and requirements for the Espanola GS*
  - *details regarding timing and magnitude of flows from Wabagishik Rapids*

Ontario Ministry of Natural Resources, 2011.Lakes and Rivers Improvement Act – Administrative Guide. August, 2011. Queens Printer for Ontario.

As previously noted, this data is not available to the public. However, the existing condition of the Domtar Dam operation and the downstream flow effects are well understood. It is clear that the Domtar Dam is not on level control, but that it is actively operated on a daily basis. It is also understood that the downstream flow fluctuations from the proposed operation of Wabagishik are much smaller than those that occur at the Domtar Dam.

Domtar has kindly provided actual operating data. The data clearly shows that the Domtar Dam is actively operated on a daily basis under existing conditions. The daily operations cause large flow fluctuations downstream, which define the existing conditions on the Spanish River downstream of the Domtar Dam. The operating decisions at the Domtar Dam are those of Domtar. As noted above, Xeneca will have no control over the operation of the Domtar Dam (pre- or post-project.)

The downstream restrictions proposed for the Wabagishik are far more stringent then the operation occurring under existing conditions at the Domtar Dam.

Ortech Consulting Inc. 2013. Proposed Operating Plan & Water Management Plan Amendment Wabagishik Rapid Small Waterpower Project (Draft for Discussion Only.) Project No. 91195.

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March, 2013. [Ryan Stainton - Memo comments]

- *My [Ryan Stainton's], basic query was regarding the discrepancies in values, specifically the maximum daily flow fluctuations that were described for the Wabagishik Rapids site in the Proposed Operating Plan & WMP Amendment (March 2013) (Table 7 vs. Appendix 1.) and Table 2 presented in the Memo from Nava Pokharel, dated March 12, 2013 - Re: Evaluation of Flow Fluctuations at Domtar Dam due to Wabagishik Rapid GS Operations. For instance, the scenarios presented in "Appendix 1: Operating Scenario Graphs", which illustrate the daily operating curve at Long Term Average Flow, as one example, do not correspond with the 'typical' monthly (unrestricted) high and low flows (daily range) presented in Table 7. The values in Table 7 of the Proposed Operating Plan show a larger daily range between high and low flows, than presented in Appendix 1. Similarly, the daily range of flows presented as 'typical' in Table 7 are higher than the monthly "Max Flow Fluctuation" presented in the March 12, Memo from Nava. The months showing these differences in predicted flow range are generally from June to December. For instance between Table 7 (Op. Plan) and Table 2 (Nava's Memo) there is a 13 m3/s discrepancy in the daily range of flows (42 m3/s vs. 29 m3/s daily range), with Table 7 of the Operating Plan showing the highest maximum flow (61 m3/s) and largest diel range. However, Figure 14 in Appendix 1 of the Operating plan shows a maximum flow of 50 m3/s and a low of 22 m3/s, for a daily range of 28 m3/s. These values reported in Appendix 1 are in line with what was reported in Table 2 of Nava's memo.*

  I am looking firstly, for clarification on which numbers are considered to be the most correct, and secondly, if the higher values are correct, are these the values that have been used to model downstream flow fluctuations? [Ryan Stainton – May 7 email]

The values in Appendix 1 are the most accurate – Table7 was updated to be consistent with the values in Appendix 1. The updated Draft Operating Plan reflects these changes.

Thanks again for sharing your comments on this document with Xeneca.

Yours truly,

Stephanie Hodsoll
Stakeholder Relations Officer
416-590-3077
shodsoll@xeneca.com

Danielle Dempsey

From: Stephanie Hodsoll <SHodsoll@xeneca.com>
Sent: July-02-13 5:03 PM
To: Robinson, Bob L. (MNR)
Cc: O'Farrell, Brendan (MNR); Leah Deveaux; cdejong@ortech.ca; Kai Markvorsen; Lynn Moreau; Ed Laratta; Andrew Schiedel; Mark Holmes; Uwe Roeper
Subject: RE: Comments on Wabagishik Power Lines & Roads Summary
Attachments: Xeneca Response to Draft Lines & Roads Report_2july13.pdf

Hi Bob,

Please see attached Xeneca's response to MNR's comments on the Power Lines & Roads Summary for Wabagishik. Thank you for the comments. In the document, you will see that the original MNR comments are in italics, followed by Xeneca's response.

Thanks,
Steph

Stephanie Hodsoll
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July 2, 2013

Bob Robinson
Ontario Ministry of Natural Resources, Sudbury District
Suite 5, 3767 Hwy 69 S
Sudbury ON P3G 1E7

Dear Bob:

RE: Xeneca Response to MNR Comments on the Draft Power Lines & Roads Summary for the Wabagishik Rapids Project

The following is Xeneca's response to the MNR comments (dated June 11, 2013) on the Transmission Lines and Roads Report Summary for the proposed Wabagishik Rapids GS. The original MNR comments are on the left side of the table with Xeneca's response on the right side of the table.

MNR Comment (Ken Henson, MNR, Sudbury)	Xeneca's Response
Overall, the report needs to clarify what the options are and what the preferred options are. Need to make sure the maps correspond with the written descriptions; the information is hard to follow and interpret what is being proposed. MNR maintains that the only acceptable option at this point in time is to have the road and transmission lines use the same corridor.	The Draft EA included an earlier (December, 2012) version of the Lines and Roads Report for Wabagishik. The Lines and Roads Report has since been updated to reflect the consideration of only two combined line and road options, with a single preferred option.
This report was a generic report used for all the roads/lines for Xeneca Projects and did not have a lot of information specific to Wabagishik.	The Lines and Roads Report has been updated to include additional site specific data for Wabagishik.
Pg 6 states that "Ground-truthing of the proposed distribution line and road access routes was completed subsequent to the post processing of digital aerial photography in June 2011. Existing roads and water crossings were assessed to determine their current condition, structural integrity and upgrade requirements". Other correspondence may have stated that not all options have been ground- truthed and the intention is to do it this spring/summer.	The Lines and Roads Report was updated to include the information on page 6, as well as confirmation that all options have been fully assessed in the field (including water crossings.)
We understand that field work in 2013 is currently occurring. MNR would like to continue the discussion regarding field work plans and how this information works into/through the EA process or at the permits and approvals stage.	2013 field work is ongoing. Al Harris and Kristi Beatty have been in touch with MNR staff to discuss field survey plans.
Pg 12 discusses route option 2 across Brazil Lake. It is not in the individual maps showing all the options. Has this option been taken off the options list? If so the report should reflect this.	This option had been removed.
Line option 6 is also not on the maps.	This option had been removed.
Pg 13 discusses the PCC south of Espanola. I thought this was not an option anymore.	The PCC option south of Espanola has been removed. The Lines and Roads Report has been updated to show a single PCC and reflect the consideration of only two combined line and road options, with a single preferred option.

Pg 14 discusses the permanent road adjacent to option 1 distribution line route, but on the maps it is option 3 distribution line route. Need to correct and clarify and change options on table 1 if required.	The Lines and Roads Report, including text, tables and maps has been updated to reflect the consideration of only two combined line and road options.
Need to fill out preferred route for distribution line route and access route.	The Lines and Roads Report has been updated to reflect the consideration of only two combined line and road options, with a single preferred option.
Pg 18 table discusses Provincially Significant Wetlands. Didn't think we had any in this area, clarification required.	Northern Bioscience completed a rapid assessment of eight wetlands within 500 metres of the proposed roads and transmission lines for Wabagishik. Three wetlands were predicted to be significant, if evaluated using the Ontario wetlands evaluation method. The rapid assessment was conducted using the methodology presented in the *Northeast Science and Tech Report TN-025: Wetland Evaluation in Ontario: Models for Predicting Wetland Score.* The Northern Bioscience report will be included in the appendices of the final EA.

Thanks again for sharing your comments on this document with Xeneca.

Yours truly,

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shodsoll@xeneca.com

Danielle Dempsey

From: Stephanie Hodsoll <SHodsoll@xeneca.com>
Sent: July-08-13 3:50 PM
To: Robinson, Bob L. (MNR)
Cc: O'Farrell, Brendan (MNR); cdejong@ortech.ca; Leah Deveaux; Mohammed Hansa; Mark Holmes; Grace Yu; Ed Laratta; Kai Markvorsen; Lynn Moreau
Subject: RE: The Next 2 Review Comment Documents
Attachments: Xeneca Response to CMP Comments_8july13.pdf

Hi Bob,

Hope you had a nice weekend.

Please see attached Xeneca's response to MNR's comments on the draft Construction Management Plan for Wabagishik. Thank you for the comments. In the document, you will see that the original MNR comments are in italics, followed by Xeneca's response.

We still owe you a response to the Biological Monitoring Plan comments and aim to get that out to you this week.

Thanks,
Steph

Stephanie Hodsoll
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From: O'Farrell, Brendan (MNR) [mailto:Brendan.OFarrell@ontario.ca]
Sent: Tuesday, June 11, 2013 7:48 PM
To: Stephanie Hodsoll; Mark Holmes
Subject: The Next 2 Review Comment Documents

Mark and Steph…

Here are the next 2 in the series leaving only the monumental task of getting the dam operating plan comments in a similar format for you in a timely fashion. Again, all of the below text applies and I am working on getting that last piece out however I'm out of the office tomorrow leaving me Thursday and Friday but I'm optimistic. If you have any questions, my cell never leaves my side!

Please be advised that in the near future, MNR (Sudbury District) will be issuing a formal, letter style response to Xeneca which will include all of the finalized review comments from the several documents provided to us over the last couple of months. However, to assist Xeneca in achieving the highest level of accuracy and efficiency for the final ER submission, I realize that the more time available to digest and incorporate agency review comments, the better off all agencies are and the higher the quality the final submission will be.

Attached you will find draft copies of the comments provided to me by MNR staff for compilation, editing and submission to Xeneca. Please understand that these documents are still in a raw, draft format and may differ slightly (insertions, omissions and edits) from the final version which will be included in the forthcoming formal response letter.

The first 2 of 5 documents have been attached to this E-mail with the others to follow shortly. If you have any questions, please feel free to contact me directly. As well, I understand the need to distribute the draft version of our comments to consultants working on their pieces for the ER however I would ask that the distribution list be limited to only those who ***require*** *advanced screening.*

Brendan O'Farrell

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In order for us to serve you better, please call ahead to make an appointment with our staff.

From: Stephanie Hodsoll [mailto:SHodsoll@xeneca.com]
Sent: June 11, 2013 10:08 AM
To: O'Farrell, Brendan (MNR); Mark Holmes
Cc: Selinger, Wayne (MNR)
Subject: RE: The First 2 of 5 Review Comment Documents

Got it, Thanks Brendan!
Steph

Stephanie Hodsoll
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From: O'Farrell, Brendan (MNR) [mailto:Brendan.OFarrell@ontario.ca]
Sent: Tuesday, June 11, 2013 8:57 AM
To: Mark Holmes
Cc: Stephanie Hodsoll; Selinger, Wayne (MNR)
Subject: FW: The First 2 of 5 Review Comment Documents

This is how taxed we are guys…seems I sent out the wrong document. Please take the document with Charles Hendry in the title and completely disregard it substituting it with the attached BMP. Sorry for the mix up!

Brendan O'Farrell

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In order for us to serve you better, please call ahead to make an appointment with our staff.

From: O'Farrell, Brendan (MNR)
Sent: June 10, 2013 4:14 PM
To: 'Mark Holmes'; 'Stephanie Hodsoll'
Cc: Andrew Schiedel
Subject: The First 2 of 5 Review Comment Documents

Hi Mark and Steph,

Please be advised that in the near future, MNR (Sudbury District) will be issuing a formal, letter style response to Xeneca which will include all of the finalized review comments from the several documents provided to us over the last couple of months. However, to assist Xeneca in achieving the highest level of accuracy and efficiency for the final ER submission, I realize that the more time available to digest and incorporate agency review comments, the better off all agencies are and the higher the quality the final submission will be.

Attached you will find draft copies of the comments provided to me by MNR staff for compilation, editing and submission to Xeneca. Please understand that these documents are still in a raw, draft format and may differ slightly (insertions, omissions and edits) from the final version which will be included in the forthcoming formal response letter.

The first 2 of 5 documents have been attached to this E-mail with the others to follow shortly. If you have any questions, please feel free to contact me directly. As well, I understand the need to distribute the draft version of our comments to consultants working on their pieces for the ER however I would ask that the distribution list be limited to only those who **require** advanced screening.

Brendan O'Farrell

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July 8, 2013

Bob Robinson
Ontario Ministry of Natural Resources, Sudbury District
Suite 5, 3767 Hwy 69 S
Sudbury ON P3G 1E7

Dear Bob:

RE: Xeneca Response to MNR Comments on the Draft Wabagishik Construction Management Plan

The following is Xeneca's response to the MNR comments on the Draft Construction Management Plan (CMP) (June 11, 2013) for the proposed Wabagishik Rapids Generating Station. The original MNR comments are in *italics* followed by the Xeneca response.

- *Part A, Section 2.3 (pg 16) – This section states that no "excavation or borrowing" will be done without the appropriate permits. In Part B, Section 1.2.1, where the construction of the Wabagishik site is specifically addressed (although the document still refers to borrow materials) the document lists the on-site sources and states that if more is needed it will come from a licensed site.*

  From Section 1.2.1 Part B:
  Earth fill will be sourced to the extent available on-site. The primary source of materials will include the abutment areas of the spillway at each shoreline and the rock blasting excavations for the powerhouse and other structure foundations. Where additional borrow material is required excess material from the access road construction and ditching operations will be used. Additional aggregate will be brought in from existing nearby licensed pits as required.

  The three primary "on site" sources listed would not need an aggregate permit to access the material.

- *The report adequately addresses aggregate source information for the purpose of the EA. It is, however still somewhat concerning that borrow sites continue to be referred to (e.g. 2.3, 2.3.1, 2.4.1, 3.2.1). The statement from Part A 2.3 (above) seems to suggest that excavation and borrowing are being interpreted as two different things. Will all references to "borrowing pits/lay down areas" be removed in the EA document before it goes out for general review?*

Thank you for the comments. We acknowledged the inconsistency and confusion around the excavation/borrowing language and the text will be revised accordingly for the final ER.

Please note that sections 2.3, 2.3.1, 2.4.1, 3.2.1, where the borrow sites are mentioned, are in Part A of the CMP. Part A is a general section which applies generally to all of Xeneca's proposed waterpower developments.

Part B of the CMP is the site-specific section. For the Wabagishik Rapids project, additional materials, if required, will be trucked to the project site from one of several licensed and privately operated Class A and B aggregate pits that are within approximately 15 to 25 km of the project site.

Thanks again for sharing your comments on this document with Xeneca.

Yours truly,

Stephanie Hodsoll
Stakeholder Relations Officer
416-590-3077
shodsoll@xeneca.com

Danielle Dempsey

From: Stephanie Hodsoll <SHodsoll@xeneca.com>
Sent: July-09-13 3:58 PM
To: Robinson, Bob L. (MNR)
Cc: O'Farrell, Brendan (MNR); Mark Holmes; Ed Laratta; Ciara DeJong; Leah Deveaux; Mohammed Hansa; Andrew Schiedel; Grace Yu; Nava Pokharel
Subject: Xeneca Response to MNR's Comments on Wabagishik Draft Bio Monitoring Plan Comments
Attachments: Xeneca Response to Draft Biological Monitoring Plan_9july13.pdf

Good afternoon!

Please see attached Xeneca's response to MNR's comments on the draft/preliminary Biological Monitoring Plan for Wabagishik. Thank you for the comments. In the document, you will see that the original MNR comments are in italics, followed by Xeneca's response.

This is the last response on MNR's Wabagishik document review submissions.

Thanks again,
Steph

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July 9, 2013

Bob Robinson
Ontario Ministry of Natural Resources, Sudbury District
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Dear Bob:

RE: Xeneca Response to MNR Comments on the Wabagishik Preliminary Biological Monitoring Plan

The following is Xeneca's response to the MNR comments on the preliminary (draft) Biological Monitoring Plan for the proposed Wabagishik Generating Station. The original MNR comments are in *italics* followed by the Xeneca response.

MNR Comments:

Draft Wabagishik Rapids Hydroelectric Generating Station Project Preliminary Biological Monitoring Plan

Comments By: Jean Enneson (MNR), Wayne Selinger (MNR), Charles Hendry (MNR) and Nikki Boucher (MNR)

Please note that the initials of the person and agency which provided the comment are listed following the comment in square brackets.

June 10, 2013

General:

• In general, some specific details regarding methodologies to be utilized for Lake Sturgeon monitoring are lacking. Suggest contacting Ontario Waterpower Association for a copy of their "Lake Sturgeon and Waterpower Data Collection and Sampling Protocols for Mitigation Effectiveness Monitoring" (OWA 2012) for suggested protocols.

This is a preliminary Monitoring Plan. Xeneca commits to further monitoring that includes a collaborative approach with other operators within the river system, and further details to be developed in consultation with the agencies at the permitting stage (resulting in a final Monitoring Plan.) In addition, the OWA protocol will be reviewed and incorporated into the Lake Sturgeon Sampling Protocols for Mitigation Effectiveness Monitoring in the permitting stage.

• *Also suggest mortality/stranding monitoring for Lake Sturgeon be incorporated based on incidental occurrences of rapid shut downs of flows (i.e. during spawning period within 1-2 hours of incidental occurrence). [N.B. — MNR]*

Xeneca will install a camera to observe any stranding of fish when any incidental occurrences/emergency shutdown of flows occur. In addition, when operation staff are at the plant during a shutdown, staff will observe for any stranded Lake Sturgeon. These commitments are outlined in the fish stranding section which has been added to the preliminary Monitoring Plan (please refer to revised section 5.0 of the revised preliminary Monitoring Plan.)

• *Hydrology monitoring is needed to ensure commitments regarding water level fluctuations are being met. As these commitments related to biological consideration, it is recommended that this monitoring be included in the Biological Monitoring Plan. If not, hydrology monitoring should be addressed in another component of the ER [J.E., W.S. – MNR]*

Xeneca has committed to install monitoring equipment both upstream and downstream of the proposed facility. The hydrology monitoring commitments are within the post-construction monitoring section of the final ER. In addition, Section 1.0 of the Biological Monitoring Plan has also been amended to reflect this commitment.

•*Erosion Monitoring is not addressed at all in the plan. Xeneca has been advised on several occasions that there are outstanding concerns re: potential erosion especially in the variable flow reach. There were specific comments related to erosion in our review comments to the draft ER. This is an important consideration. We await better documentation / evaluation of this concern in the final ER and it should clearly be part of the 10 year monitoring strategy with mitigation identified in the event that erosion problems arise. [W.S. - MNR)*

The need for erosion monitoring has been carefully assessed and it has been determined it will not be part of the Biological Monitoring Plan. Erosion potential assessment has not identified any significant concern related to the new inundation or the long-term operation of the GS. The changes in downstream flows resulting from project operation are well below the flow rates that would cause downstream erosion or result in changes to channel formations.

Furthermore, the changes in water levels caused by facility operation have been hydraulically modeled and are less than half the magnitude of the fluctuations that occur under existing conditions. Under existing conditions, erosion has not been identified as a concern. River geomorphology clearly identifies that the river channel is very stable with primarily a solid bedrock or heavy cobble substrate.

To further mitigate and address any possible concern, the Operating Plan commits to limit the changes in flow rate so as to further constrain the change in water levels. With the restrictions imposed in the Operating Plan, the maximum fluctuation will be less than one quarter of what is occurring under existing conditions. This imposed constraint provides further assurance that the proposed flow rate changes resulting from operation are safe and will not cause downstream erosion.

Erosion due to upstream operation was determined not to be an environmental risk factor. The upstream operation involves following natural lake levels throughout the year, hence no seasonal change in water levels is proposed in the Operating Plan. The plan does propose fluctuating upstream water levels daily, but only +/- 5 cm. This very small change is not deemed to have any measurable effect on shoreline erosion, as it is less than fluctuations caused by boat wakes, waves and wind set up that occurs on daily basis.

Erosion due to inundation was assessed by examining the geologic maps, slopes and proposed levels from the operation of the Wabagishik GS. The proposed new inundation for this project is very small and extends from the dam to the outlet of Wabagishik Lake, a distance of about 800 meters. New inundation depth ranges from 0 meters at the lake outlet to 6 meters at the dam. The south shoreline consists largely of bedrock with very small localized deposits of sand. No appreciable erosion is expected along the south shoreline.

Along the north shoreline, the shoreline consists of bedrock with the higher elevations being covered by a thin veneer of sand and gravel. The new inundation shoreline will exist in the sand and gravel veneer in only a small shoreline section in close proximity to the dam. Given the thin nature of the sand and gravel veneer and the underlying bedrock, very minor and localized erosion could occur within 250 meters upstream of the dam site.

Based on available information, it can be reasonably concluded that a significant environmental concern related to inundation related erosion does not appear to exist. However, this area will be examined more closely during detailed construction planning and, if necessary, steps will be taken to either stabilize any affected location or to monitor it during project operation.

Furthermore, Xeneca is developing a long-term erosion measurement program as part of a due diligence program by comparing pre- and post-construction levels. Baseline studies have been done and Xeneca will verify these results during the initial operating period.

Section 1.2

• *Monitoring Plan for Lake Sturgeon should be extended to a minimum of 20 years (preferably 25 years) in order to properly assess recruitment and abundance and any changes therein. [N.B. - MNR]*

This request seems excessive since this proposed project represents one component of an already-altered system. Xeneca is committed to monitoring for nine years (general fish community surveys in years 3, 6, and 9.)

However, Xeneca will work with the other users on the system to prepare a collaborative monitoring system through the Water Management Plan (WMP.) This monitoring request is best addressed through WMP as it involves several operators on the river system. Xeneca has been working with other operators and will continue to do so under agreements and/or the WMP.

Further, Xeneca has committed to work with the United Walleye Clubs of Ontario and the Ontario Federation of Anglers and Hunters on a hatchery facility that could be used for sturgeon restoration work. Xeneca has also had expressed interest in working with a sturgeon hatchery operated by the local Union of Ontario Indians.

• *Table 1 — Compensation Fish Habitat — Recommend Lake Sturgeon spawning use and egg deposition is monitored for the first 5 years post-construction. [N.B. — MNR]*

As per the OWA document on monitoring lake sturgeon, the preliminary Monitoring Plan has been updated to include annual monitoring of the compensation habitat for five years after construction. Further details will be provided as necessary during the permitting phase.

Section 2.3

•*The assumption is that up and down ramping rates will dislodge benthics from the substrate and hence affect overall productivity. This could be the case but wetted area is also a consideration. Placement of artificial substrates will be crucial to detecting change. I would suggest that wetted width needs to be monitored at riffle areas as well as that some of the H-D samplers be located in riffle areas affected by daily water level fluctuations. [C.H. — MNR]*

Xeneca has proposed a preliminary Monitoring Plan for the inclusion in the ER; the specifics of this plan will be further developed post-EA during the permitting phase in collaboration with the agencies. This plan will include H-D samplers that will be located at riffle areas, and information pertaining to the changes in wetted width will be collected.

The post-construction biological monitoring reports will consider the change in wetted area as part of the discussion of the benthic invertebrate sampling results. Please refer to section 2.2 for the conceptual approach to the methods used in the Monitoring Plan.

Section 2.4

• *This [Statistical analysis using ANOVA] is not a bad idea and done right may well give us further insight into hydro effects on benthics. With only one year I expect it will be difficult to get a statistically meaningful measure at the end of the day. [C.H. - MNR]*

Additional benthic data will be collected in years 1, 3, 6, and 9 and will be compared to pre-construction data.

Section 2.4

•*What metrics will be used in the Benthic Invertebrate monitoring? Those calculated for the Natural Environment Characterization and Impact Assessment Report? [J.E. - MNR]*

The metrics used Natural Environment Characterization and Impact Assessment Report will be used in the benthic invertebrate monitoring.

Section 3.0

•*We request index of walleye spawning population in addition to index of fish community. The most appropriate means being to set trap nets immediate below spawning location prior to and during the*

spawning run. Fish to be biologically sampled, aged, marked and released. This requirement should be added to Section 3 or Section 4 of the report. Section 4.2 already mentions trap netting as an alternative to visual spotlight surveys but it is my recommendation that trap netting to be a mandatory requirement of post construction monitoring. [W.S. -MNR]

Xeneca has committed to using trap-netting if the visual spotlight surveys are not successful. In the event spotlight surveys are not successful, trap-netting can be accommodated in years 1, 3 and 5.

•*Monitoring of stranding of all fish species should occur, with mitigation in the form of operating changes or channel modification as required to prevent ongoing stranding [W.S - MNR]*

Monitoring of all fish stranding will occur. The minimum flow rates, restricted fluctuations and ramping rate restrictions in the Operating Plan will reduce the likelihood of stranding. As part of the monitoring commitments, the proposed Monitoring Plan will be updated to reflect the wording in the Natural Environment Characterization and Impact Assessment Report, namely:

> Should fish stranding be identified as an issue, possible mitigation measures include minor habitat adjustments at problem areas to provide a pathway for stranded fish to reach the flowing water, and adjustments to the operations such that flow is ramped down at a slower rate to provide more time for fish to escape stranding areas.

•*Sampling is slated to occur one time in August -- recommend sampling for Lake Sturgeon juveniles and adults occur between September and October (10-15oC), utilizing the recommended protocol in the OWA document. [N.B. - MNR]*

Existing research indicates that lake sturgeon sampling in the autumn generates superior results, and Xeneca is willing to be part of a collaborative sampling program involving the other dam operators on the Vermilion and Spanish Rivers during the September and October timeframe.

•*15 sets are proposed in the draft plan — recommend minimum of 20 sets for Lake Sturgeon. [N.B. - MNR]*

Baseline data was collected with 15 large RIN nets for general sampling, and repeating the same study post-construction is a reasonable approach. It is Xeneca's opinion that it is better to compare post-construction results with the baseline when the same methods are used.

Xeneca would also like to explore the possibility of doing studies of lake sturgeon as part of achieving overall benefit for the species for an ESA permit. This may involve collaborating with other river system users to develop a coordinated approach for lake sturgeon study – perhaps a Collaborative Lake Sturgeon Program in line with OWA recommendations.

Xeneca has committed to work with the United Walleye Clubs of Ontario and the Ontario Federation of Anglers and Hunters on a hatchery facility that could be used for sturgeon restoration work. Xeneca has also had expressed interest in working with a sturgeon hatchery operated by the local Union of Ontario Indians.

Section 3.1

•There is no reference to providing "overall benefit". [C.H. — MNR]

The 'overall benefit' is referenced in the Habitat Compensation Plan and is now reflected in the Monitoring Plan in section 3.1. Additional details for lake sturgeon monitoring objectives and methods will be added to the final Biological Monitoring Plan.

Section 4.1 & 4.2

•Need to be revised to reflect our discussions and pending input on the Fish Habitat Compensation Plan. Specifically, the input relating to priority compensation sites / methods and the requirement for River 2D modeling (or equivalent) to design and monitor function of the new habitat in addition to the planned observations of use. [W.S. - MNR]

The two-dimensional modeling commitment is now discussed in the Monitoring Plan. Any additional fish habitat compensation monitoring will occur only if it is found that the fish are not using the habitat created as compensation. Please refer to section 4.2 of the Monitoring Plan.

Section 4.2

•No mention of sampling for juveniles. Juvenile abundance sampling should commence no earlier than 3 years, preferably 5 years post -construction to avoid mortality. It is recommended that such sampling continue to 10 or 15 years post-construction in order to confirm long-term success of reproduction at created spawning habitat locations. (OWA 2012) [N.B. - MNR]

The sampling protocol for juveniles will be reviewed and incorporated into the Monitoring Plan following discussion with MNR in the permitting stage.

•Does two occasions mean two seasons or twice in one season? Preferably when flows differ over spawning seasons. [C.H. - MNR]

There will be two occasions in one season. Report section 4.2 will be updated to clarify the commitment.

•This [Spotlight Surveys] works for walleye...not so much for sturgeon. Sturgeon are active at night when feeding post spawn and lights can be used in very specific circumstances and habitat types. In this case, sturgeon spawners are most active during the day so visual surveys should ideally be undertaken then. [C.H. - MNR]

Xeneca is in agreement. The report will be updated for the final ER.

•More details regarding the planned methodology for the use of egg mats should be provided. Suggested protocol found in the referenced OWA document. [N.B. - MNR]

This preliminary Monitoring Plan contained within the final ER will be refined to incorporate details that arise from agency discussion in permitting stages. The OWA document will be cited for any required amendments during the permitting phase.

•This comment [Capture of Adults] relates to both walleye and sturgeon. It seems that the proponent is recommending presence/absence surveys. Will this meet the intents of the management objectives (top of page 6)? Reference is made to abundance in the objective but here only presence surveys are being recommended. The objectives should be consistent with the methods. Given there is no concrete information on the presence in pre-development survey so far, perhaps this piece can be adaptive. If sturgeon are detected then an effort to get abundance information can performed? See table 8 of reference document for methods of abundance. [C.H. - MNR]

Regarding the MNR's management objectives, given there are multiple operators on the river system, Xeneca commits to collaborative efforts on a study as well as efforts to ensure that the management objectives are met. This may best be achieved through WMP.

Xeneca will generate useful information to contribute to the overall information available for the MNR's management objectives. Section 3.1 of the Monitoring Plan will be clarified to reflect this.

•Spotlight surveys are not an effective means of observing spawning Lake Sturgeon as they would be active during the day. Depending on flow levels, daytime visual surveys could be incorporated following the protocol described in OWA document. [N.B. - MNR]

The Monitoring Plan has been updated to include daytime visual surveys for spawning lake sturgeon. The OWA document will be reviewed and the Monitoring Plan will be further amended as necessary during the permitting phase.

•As a final resort to confirm spawning, gill netting following the protocol in the referenced OWA document should be utilized. [N.B - MNR]

This Monitoring Plan contained within the final ER will be refined to incorporate details that arise from agency discussion in permitting stages. The OWA document will be cited for any required amendments during the permitting phase.

Section 4.4

• Post construction data for spawning use and egg deposition should be collected for the first 5 years post-construction, with larval drift being sampled at least once in the 5 year period, especially during the same year that egg deposition is observed. If spawning is confirmed in the first few years post-construction, monitoring for Lake Sturgeon spawning is not required in subsequent years. (OWA 2012). [N.B - MNR]

Xeneca has committed to spawning surveys for the first five years. The Monitoring Plan contained within the final ER will be refined to incorporate details that arise from agency

discussion in permitting stages. The OWA document will be cited for any required amendments during the permitting phase.

• *The schedule is not consistent with the schedule in the Fish Habitat Compensation Plan [J. E. - MNR]*

These documents will be updated to be consistent.

Section 5.1

• *No mention of potential for snake hibernaculum, which may also be impacted. Refer to the "Draft Significant Wildlife Habitat Eco-region 5E Criterion Schedule" for guidance. [N.B. - MNR]*

Xeneca has committed to look for snake hibernaculum prior to construction activities using trained staff as stated in the Construction Management Plan. As reflected in the Natural Environment Characterization and Impact Assessment Report, no impacts to snake hibernaculum from operations/water level fluctuations are anticipated.

Section 5.2

• *The methodology for vegetation surveys for wetland monitoring appears to be different from methodology used the Natural Environment Characterization and Impact Assessment Report. How will results be compared to pre-construction conditions? Is there a rationale for using one meter quadrants? What metrics will be used to compare plots to previous conditions? [J.E. – MNR]*

The methods will not be exactly the same as the Natural Characterization and Impact Assessment Report, as the objectives of the studies are different. The original study area was classified using Ecological Land Classification (Lee et al. 1998) to determine community types. For the purpose of monitoring, pre-construction data will be collected as per Section 6.2 of the Monitoring Plan, using one-meter quadrants to assess changes in species composition within the classified communities. These methods will also be used post-construction to determine if vegetation composition is changing within the communities of focus (wetland communities.) The one-meter quadrants approach is a more focused and repeatable study within the smaller wetland communities associated with the tributaries and the bay below Wabagishik Rapids.

The final Monitoring Plan will provide additional details on the specific metrics and methods for analysis of the data.

• *Very little detail is provided for amphibian and breeding bird survey methods. If the intention is to use breeding birds and amphibians as indicators of the ecological function of the wetlands, details are needed as to how this will be done. Depending on what is being proposed, June may not be appropriate timing for amphibian monitoring. [J.E. – MNR]*

This Monitoring Plan contained within the final ER will be refined to incorporate details that arise from agency discussion in permitting stages. Methods for amphibian and breeding bird surveys follow similar methods to those outlined within the Natural Characterization and Impact

Assessment Report as well as those outlined in the Significant Wildlife Habitat (SWH) Ecoregion Criterion Schedule (OMNR 2012.)

The breeding bird surveys will be conducted within the wetland communities and focus on identifying nesting activity of marsh and waterfowl species. Indicator species listed within the Ecoregion Criterion will be identified and activity recorded to assess whether the community is still being used for nesting and therefore provide SWH. The survey method for breeding amphibians will follow methods set out by the Natural Characterization and Impact Assessment Report, as well as Marsh Monitoring Program (Bird Studies Canada 2009) and Ecoregion Criterion Schedule. These surveys will consist of visits to determine the number of indicator species as outline within the ecoregion criteria. These details have been added to the preliminary Monitoring Plan, and more detailed methods will be provided within the final Monitoring Plan.

Section 6.0

• *Note: As of June 30, 2013, Blanding's Turtles will receive habitat protection under the Endangered Species Act, 2007 (ESA) in addition to the species protection they currently receive. [N.B. MNR*]

Thank you. The Monitoring Plan will be adjusted to reflect the new status of the Blanding's Turtle.

• *+/- 15 cm daily water level could certainly be enough to harm and/or kill overwintering Blanding's Turtles. [N.B. MNR*]

The potential impacts to Blanding's Turtles are limited to the overwintering habitat within the tributaries and embayment area within the downstream extent of the Vermilion River. To date, there is no confirmed presence of the Blanding Turtles within the Vermilion River or tributaries within the study area.

Based on water level data collected by Xeneca in the bay area about 900m downstream of the Wabagishik Rapids tailrace area, existing fluctuations in water levels during the overwintering period are currently greater than the +/- 15cm proposed in the draft Operating Plan. Between December 1, 2011 and March 15, 2012, the fluctuations in the bay area were greater than 50 cm. To verify Xeneca's commitment to +/-15 cm, Xeneca will monitor the water level fluctuations in the bay with a water level monitor to determine the actual water level fluctuations at the potential Blanding's Turtle habitat.

As part of the ESA permitting process, Xeneca will conduct presence/absence studies for the Blanding's Turtles and details of the specific monitoring plan will be determined after the presence/absence studies have been completed. It is also relevant that, as noted in the Natural Environmental Characterization and Impact Report, Blanding's Turtles do have the ability to move or relocate during the overwintering period.
In addition, monitoring for Blanding's Turtle will occur during construction and post-construction. The Monitoring Plan in the final ER will be updated to reflect to new status of the Blanding's Turtles.

• *It is my understanding that baseline targeted surveys for Blanding's Turtles are currently underway. The results from these surveys could have implications with regards to required ESA authorizations. Should Blanding's Turtle overwintering habitat be confirmed, mitigation measures such as stabilizing levels during the overwintering period would most likely be a requirement in the ESA Authorization. [N.B. MNR]*

The surveys have been postponed. The survey protocol will be circulated to the agencies prior to starting the surveys.

•*The use of hoop-net traps alone has generally proven to be ineffective for catching Blanding's Turtles. Instead, basking surveys are recommended following MNR's "Blanding's Turtle Survey Protocol". [N.B. MNR]*

Both hoop-net traps and basking surveys will be completed as part of the ESA authorization. Basking surveys will take place to compliment hoop-net traps within each wetland community. These surveys have been included in the preliminary Monitoring Plan, and will be described in more detail in the final Monitoring Plan.

•*The use of transmitters may also be of use in determining displacement of Blanding's Turtles from their overwintering sites, as well as to assist in the location of additional habitats such as nesting, summer, travel corridors etc. that could potentially be impacted by operation. [N.B. MNR]*

This Monitoring Plan is a conceptual document for use within the ER, and it will be refined at the permitting stage. The use of transmitters is likely out of the scope of required monitoring for the project as overwintering habitat is the only habitat with potential impacts. There have been no identified impacts to nesting areas or travel corridors due to operations.

Further discussion between Xeneca and regulatory agencies is anticipated as part of the ESA permit application process at which time additional, information from future Blanding's Turtle surveys will be available. This component may need to be updated for the final Monitoring Plan.

Thanks again for sharing your comments on this document with Xeneca.

Yours truly,

Stephanie Hodsoll
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shodsoll@xeneca.com