MNR REVIEW COMMENTS: LIZARD CREEK ENVIRONMENTAL SCREENING REPORT, AUGUST 19, 2011

#	Pg #	Ref.	MNR Comment	Proponent's Response	
1.	1	1.1	Conceptual drawings or rough sketches for the structures S1, S2, S3, S4, S5, and W1&W2 to support FIGURE 1-1 must be available for review.	See updated drawing set attached.	
2.	1	1.0	Location of the project is "Township of the Northshore" which is the name of the municipality, not a township name (the correct name seems to have been used through the rest of the report).	Agreed	
3.	1	1.1	Does this description include temporary infrastructure such as landings, parking areas, temporary settlement basins, vehicle wash stations, etc. as well as all permanent structures (e.g. substation, transmission, submarine cables, etc.)? Permanent and temporary infrastructure must also be repeated in the mapping.	Attached drawings have been modified / added to address these additional areas of use. Note that specific details on usage of construction staging areas will be provided during MNR Plans & Specs Approval application stage of the project.	
4.	3	1.4	Attached Proposed Project Schedule does not reflect survey activities, which can be time consuming.	Initial surveys are complete additional surveys will be done during the design stage of the project (prior to crown lease / license of occupation applications) and a final legal survey will be done after construction for the WPLA.	
5.	3	Fig. 1.1	Please include land tenure on this map or create a separate map with orthophoto and project layout, plus tenure divided into Crown / Acquired Patent / Patent (separate municipal and other) / Federal (First Nations). A map of the project with ortho and contour lines would be valuable as well.	See attached drawing P-1 & P-2 Jan. 2012 for land tenure. Contours are provided on many of the DD drawings attached.	
6.	3	Fig. 1-1	Figures, particularly 1-1, should include scale and direction. Not confident about delineation of zone of influence given some of the information in the report.	See updated drawings GA-1 Jan. 2012 Figure 1-1.Jan. 2012 Note that project study area has been expanded for base line studies – see item #79 for details	
7.	3	1.4	It is not clear if the project is entirely on Crown land or if some of it will occur on private (municipal?) land. References to the Crown Land Use Policy Atlas would be more useful if linked to this project – i.e. is hydroelectric development permitted within the land use designation.	See Item #5. See drawing P-1 & P-2 Jan. 2012	
8.	5		The length of the bypass reach for the different options is never stated. Please provide.	Approximate lengths as follows: Option 1 – 2500m Option 2 – 2300m Option 3 – 4000m Option 4 – 2500m	
9.	9	Tab. 1-1	The total areas provided would be better if accompanied by a map of scale no more than 1:2500.	See updated drawing set attached.	
10.	9	2.0	As the EA process did not include consultation on the WMP amendment (i.e. Public Notices), additional public consultation will be required.	It is our understanding that WMP is no longer a requirement of this EA process.	
11.	10	1.6.1	Please note that Site Release grants first right of development to Crown lands, not use.	Agreed.	

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12.	10		Who will maintain control of the transmission line – LCPI or HONI?	LCPI will be responsible for permits, construction and maintenance of the proposed TAP line from the powerhouse to the interconnection point on the existing HONI line at Hwy. 17.	
13.	13	1-2	EA states that project may be deemed to be HADD, and an agreement may be required. Based on an email/letter from DFO on July 6th to the proponent, an authorization for HADD is required for this project.	A HADD has since been identified by DFO. Therefore, authorization under the Fisheries Act will be required. LCPI will apply to DFO for this authorization after final CEAA sign-off, i.e. during the approvals/permitting stage of the project.	
14.	13	Tab. 1.2 & 1.6.2	Several MNR permits missing – under LRIA, Water Management Planning; additionally, Public Lands Act, Crown Forest Sustainability Act, Forest Fire Prevention Act, and possibly Aggregate Resources Act, Endangered Species Act, Fish and Wildlife Conservation Act.	Agreed. All of these may apply and will applied for and received as required for construction during the approvals/permitting stage of the project.	
15.	16	Tab. 1-3 and 4-8	This facility has the potential to effect operations of Existing Water Management Plan. The stakeholders of these existing facilities must be consulted and potential impacts further addressed.	It is our understanding that there is no approved WMP for this area. Also see Item #10.	
16.		Tab. 1-4	1. While the details in this table are appreciated, it would be helpful to provide a list of major proposed project events and important mile stones of project. 2. COD is stated to be April 1, 2012. Is this correct? 3. Please clarify the last activity "Flood Head Pond". Please provide further details, including surface area, total area of inundation, etc.	1 & 2. An updated schedule will be provided in Phase 5 of the Class EA process. 3. Total water cover area R-1 to S-1 = 42.08 Hectares Comprising of new at 13.96 ha and existing at 28.12 ha These values are approximate.	
17.	17 92	1-4 4.2.1	Tailrace spawning window does not include potential for fall spawners (salmonids). Surveys are to be conducted in fall 2011 when preferred spawning temperatures for Chinook and pink salmon are reached. Should salmonids be found to utilize the tailrace area for the purpose of spawning, compensation flows may be warranted between September through to June. Discussions with the MNR area biologist and DFO will be required at that time to discuss the needs of these fish species and to enter into an agreement with respect to flows and timing. It should be noted that if future changes in fish community do occur over time, changes to plant operation may be required to accommodate the life cycles of fish species and their habitat within the zone of influence for this project (i.e. if salmon are not present this fall, but are observed in future years). Similarly, for the purpose of construction, should it be determined that salmon are utilizing the tailrace for spawning purposes, restricted activity timing windows may also include September 1 to June 15th. Should this be the case, discussions should occur with the area MNR biologist and DFO to determine an appropriate window where construction is approved.	NEA conducted a 2011 fall salmon survey and submitted results to MNR January 2012. Chinook salmon spawning was confirmed in reach 1. Salmon spawning was not observed in bypass area. See attachments: "ESR Response Memo for MNR Comments_Aquatics" and "Final 2011 Fall Salmonid Spawning Assessment Protocol Lizard Creek-Aug11"	
18.	25	2.2.4.1	Reference to Domtar… clarification may be required here to indicate that the company is now EACOM	Agreed.	

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19.	26	2.2.4.2	Snowmobile trail – would like written confirmation that there is no temporary or permanent rerouting of the existing trail, outside of the bridge over Lizard Creek.	There is no temporary or permanent re-routing of the exiting trail, with the exception of the replacement of the bridge over Lizard Creek at WC-1. Replacement will be done outside of snowmobiling season to prevent impact during this activity.	
20.	27-41	2.3	The ESR's summary of consultation still doesn't adequately outline what issues were raised by aboriginal communities or how the issues were addressed. The report simply itemizes all points of contact with aboriginal communities/proponent/MNR. This kind of itemized listing could be attached as an appendix, but the body of the ESR needs to clearly describe the nature of interactions, any issues raised, how they were addressed, and how the decisions were communicated back to the relevant Aboriginal community.	LCPI has received conflicting direction from agencies in regards to specific text and discussion shared with the IAC's – as far as what is to be included or excluded in the ESR. LCPI has documented text on file to be provided when and where as per further instruction. To clarify as of July 24/12 SAFN - has brought forward no formal comments or concerns relative to the specifics of this project MFN - has brought forward no formal comments or concerns relative to the specifics of this project SRFN – comments and concerns July 12/11 and LCPI responses July 18/11 see attached – no further response from SRFN -refer to SRFN letter to the Crown Sept.20/11	
21.	32	2.3.1	The first item (Trapline BL89) in SRFN's July 18/11 letter appears to make the assertion that the project will impact on the FN's Treaty right to trap, hunt and gather in the area. According to the Waterpower Class EA (p.69), such an assertion should be reported to MOE by the proponent. Did the proponent report this assertion to the MOE? It is also unclear if SRFN is satisfied with the way their concerns have been accommodated; this should be clarified.	MOE was notified of the assertion - EAAB director was provided file information August 22/11 for review. SRFN has requested the Crown intervene in consultation. MOE and other Provincial agencies to meet with SRFN tentatively – May 2012 LCPI has followed up regularly with Provincial agencies requesting updates on progress – no formal progress or direction reported to LCPI to date in these regards.	
22.	32	2.3.1	It is not clear that items 2-6 identified in SRFN's July 18/11 letter have been addressed. It is recommended that the proponent provide clarification and/or correspond with SRFN to "close the loop" ensuring that SRFN understands the response and has commented on the LCPI responses to their issues.	See Item #20 & 21	
23.	33	Point 5	Should identify whether the area of interest to SRFN is Crown or private.	Area of interest is Crown.	
24.	35-41 42	2.3.4 2.6	It is not clear that the proponent has sufficient information about concerns the Métis community may have with the project. It follows then that it may be premature to conclude that all issues have been addressed. The proponent's most recent correspondence to the Métis community was sent on July 20th; the email included a final offer to meet with the community to clarify their concerns. MNR strongly suggests that the proponent wait for the response to this correspondence before finalizing an approach to the project that may not include Métis participation.	LCPI has met with the Metis subsequent to this question. The Metis have provided formalized summary of concerns. LCPI to address Metis concerns after further progress has been made with agency comments – LCPI is updating Metis on this progress	
25.	34-	2.3.2	There seems to be an imbalance in the engagement of various aboriginal	LCPI has made numerous attempts to engage in	

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	35 35	2.3.3	communities – the efforts seem to have been focused on Serpent River FN and the Métis community. The proponent should explain the imbalance in its analysis of consultation. Are Mississauga FN and Sagamok Anishnawbek satisfied with the consultation effort with their respective communities?	discussions with Mississauga FN and Sagamok Anishnawbek as evidenced in the ESR – LCPI continues with attempts in these regards. See item # 20	
26.	39-41	2.3	December 3, 14 & 21 entries show as “2011” – should be “2010”	Agreed.	
27.	39-41	2.3	From the December 3rd entry onward (for Métis consultation), reference to proponent has changed from LCPI to Pecors Power. Is this correct? If accurate, some explanation may be required re: the change from LCPI to Pecors Power.	Typo - Should be LCPI	
28.	47-49		If proposed reservoir will have levels similar to Lillie Lake, how will R-1 be effective? Sounds like backwater effect could extend through Upper Lizard into Lillie. On p. 49, EA also states “natural high water levels in Lillie and Lizard during peak flows would not be expected to change significantly”. Please expand on this and quantify. Same assessment required for changes in low flow restriction. Need more information on physical characteristics of R-1. Cross section mapping would be helpful.	The project study limits have been expanded for collection and documentation of extensive base line info w/r to natural ecological and hydrological values. The results of these expanded studies (see attached tables and reports as noted elsewhere in this matrix) will be brought forward in the establishment, with Regulators, an adaptive operating management plan and monitoring plan..	
29.	49	Fig. 3-1	“the post development effect on the natural restriction (outlet of upper Lizard lake) should not significantly change the peak flow restriction, however would reduce the low flow restriction. To what extent (magnitude, duration, and frequency) will lake levels change on Lillie and Lizard Lakes at high and low flows? Monitoring should include observations of any trends in the health of shoreline vegetation most notably trees dying in response to elevate water levels on Upper and Lower Lizard and Lillie.	See response at item #28 See response at item #79 for reference to attachments	
30.	52		Fish data was not collected for Lillie. Should Lillie be found to be included within the ZOI, additional surveys may be required.	See response at item #28 See response at item #79 for reference to attachments See attachment Item #30 See attachment “ESR Response Memo for MNR Comments_Aquatics”	
31.	54	3-8	Water temperatures and general weather conditions for all fisheries sampling needs to be included in this table. Please provide.	See attachment “Item #31. Table 3-8. Updated_Summary of RGL Fish Sampling Effort - March 07”	
32.	54	3-8	Many dates missing in this table for sampling – please fill in accordingly.	See #31.	
33.	56	3.1.5.2	Level of effort for lake sturgeon detection is unsatisfactory to date as previously discussed with proponent and consultant. Recommended that larval drift netting is conducted at the appropriate time and for the necessary duration to ensure that no sturgeon are utilizing this stretch of river.	See attachment “ESR Response Memo for MNR Comments_Aquatics”	
34.	56		“Lake sturgeon is believed to have been extirpated from Serpent River.” Future flexibility to support sturgeon recovery efforts as to be determined in Federal and provincial recovery plans should be supported.	To be discussed during permitting. MNR documents describe lake sturgeon populations to be extirpated in Serpent River. The draft provincial recovery strategy describes lake sturgeon population as “unknown” in the Serpent River. See Item 33	
35.	58	Tab.3-	Pink Salmon spawning temperature should read 7.2 – 12.8	Agreed	

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36.	58	Tab.3-10	Walleye spawning temperature should read 5.6 – 11.1	Agreed	
37.	60, 80		EA states "area currently occupied by beaver dams will be flooded further by creation of dam on outletting stream…." Destruction/removal of beaver dams may require permit under FWCA. More details with respect to beaver dams is required.	The presence of beaver dams will be reassessed prior to construction and prior to filling the headpond. Should it be determined that removal is required, a permit under FWCA will be applied for and received prior to the associated activity.	
38.	62	3.1.6.2	Please change "The fall visual spawning salmonid survey will be repeated in 2011 from the end of August to October…" to state that surveys will be conducted throughout the preferred spawning temperature ranges for Chinook and pink salmon.	See #17 Proponents Response	
39.	62	3.1.6.1	What were the temperatures during visual lake sturgeon surveys on June 15/16?	See attachment "ESR Response Memo for MNR Comments_Aquatics"	
40.	65-66	3-14 & 3-15	3D flow analysis should be considered for future surveys. If this is going to be carried out at HWY 17 barrier on the Serpent River, please advise the MNR SAR biologist and discuss in more detail.	No modeling required as fall salmon studies have confirmed migration upstream of Hwy 17 barrier.	
41.	67	3.1.9.1	"Potential reasons [for low density of inverts] include low water levels and substrate composition resulting in lower available habitat." Therefore, reducing flows to summer low flows for a lengthier period of time outside of normal summer low flows will likely result in further loss and lower density. This should be reflected in the assessment of impacts discussed in the EA.	In addition to Benthic survey results posted in the ESR from data collection completed in 2007 and 2009 extensive benthic collections were completed in the fall of 2011. Samples were collected from the tailrace, bypass and headpond areas for the purpose of impact assessment and long-term monitoring. See attachment: Aquatic Biomonitorng Protocol_October 19 2011_V2." See attachment "ESR Response Memo for MNR Comments_Aquatics	
42.	69	3.1.10.1	As stated in the draft ESR comments provided by MNR, breeding bird surveys conducted on July 27th, 28th, and September 24th were conducted outside of the breeding bird season for Ontario. These surveys should not be considered as breeding bird surveys.	Those periods are outside the main breeding bird season and dates for point count surveys. The species recorded in July may include fledged birds and late breeders of second clutches. The September date would be of fall migrants and some year round resident birds.	
43.	71	3.1.10.1	It is stated that "Table 3-19 lists the recorded bird species in the OBBA square 17LM81/82", but Table 3-19 only lists 7 bird species at risk.	See table 3-22 SAR attached	
44.	73	3.1.10.2	Why were surveys timed to coincide with SNTU peak mating? Are these appropriate times for this species, and does this account for other SAR herps that are potentially in the area? What are the details of targeted BLTU surveys? i.e. how much time spent in each area, methods, air and water temperatures, weather conditions etc. Additional details need to be provided.	Surveys in 2009 were conducted at a time to coincide with plants, birds and herpetile activity. This included snapping turtle nesting times. Searches for blanding's turtles were also part of these surveys. After a discussion with Nathan Hanes, additional site visits were conducted to actively seek blanding's turtles. These were conducted	

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				in May and June 2011 and included wading through shallow vegetated areas in the evening and searching the shorelines for sign of turtle tracks, adults and nesting activity. Weather during the May visit was dry with calm winds and partly cloudy, 18 degrees Celsius. Water temperature was 16 degrees. Surveys during the early morning also targeted the shallow areas and included active searches by wading through shallow wetland areas and passive methods scanning logs and vegetation for adults. Each surveyed area was searched for 1 hour by three biologists. Sandy embankments and areas of potential suitable nesting habitat were also searched.	
45.	74, 78	3.1.10.2	Blandings turtle (threatened status) determined to be "likely present" in project area – how to mitigate if habitats and locations are unknown? Need to develop mitigation plan for possible nesting turtles in the area that might be affected by future inundation and water level fluctuations. The SAR biologist should be consulted in this process.	The presence of blandings turtles was not confirmed through our field surveys and no direct evidence (individuals, nests or egg shells) was found. To mitigate during pre-construction, flooding and operational phases a monitoring plan will be developed in consultation with MNR that includes targeted searches for turtles during the late spring breeding and summer foraging/basking seasons, education of site workers, training to move turtles out of harms way if found in construction zones or on roadways and monitoring of nest sites if found during construction or operational phases.	
46.	75 and 123	3.1.10.4 & 4.3.9.7.	Terrestrial wildlife habitat linkage and corridors normally describe intact habitat such as areas of connective forest cover or areas that connect one habitat type to another to meet a species life history requirements. Hydro right of way and ATV trails for example should not be described as wildlife corridors although they may be used by some species.	Acknowledged	
47.	77	3-22	Since lake sturgeon utilize a wide variety of habitats, it can not be concluded at this time that there is no sturgeon habitat present. Please modify.	Agreed See Item 34	
48.	77	3-22	Wood turtle should be added to this list. An up-to-date list of SAR in SSM District has been developed and is appended for your information.	Updated list received and table has been updated to reflect this. See attached table NEA (Table 3-22 SAR List update, March 2012).	
49.	77	Tab. 3-22	MNR disagrees with the conclusion that milksnake habitat is not present; they are documented as recently as 2010 approximately 4km west of site (on Hwy 108); appropriate habitat is present e.g. forests, rock outcrops, forest edges, fields (e.g. transmission corridors), etc. (This same comment applies to Table 25 in the ESR (pg. 152 of Appendix 5)).	NEA acknowledges that potential suitable habitat for Milksnake in study area in the forest edges and natural and manmade openings and along the existing hydro corridor, however, no were noted during field studies.	
50.	80	3.1.12	As stated in MNR comments provided on the draft ESR, the reference to Lakefield South wetland should be removed; MNR records do not indicate that this wetland exists. Do to the reference cited (MNR 2005), MNR is questioning whether the most recent	This was an error in the name and should not be included.	

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			forest management plan (2010) has been consulted for planned forest operations.		
51.	80	3.4.3	Use SARA and SARO statuses – not COSSARO and COSSEWIC.	Acknowledged	
52.	81	3.2.3	The numbers of communities identified is confusing – the numeric references do not match the text numbers (eg. one (2) Métis community; four (5) communities). To clarify, there are 3 FN communities and 1 Métis community.	This was a typing error. It should read: three (3) First Nations, one (1) Métis, four (4) communities total	
53.	81	3.2.3	This section discusses the Aboriginal communities associated with this project. The Métis community associated with this project is the North Channel Métis Council. That Council opted to have a consultation committee represent them through the consultation process. It is suggested that you remove reference to the consultation committee in this section because it is not in itself an Aboriginal community. Alternatively, some clarification may be required to explain the role of the consultation committee in the process.	Agreed. Sault Ste. Marie Region Consultation Committee is consultation committee representing the North Channel Métis Council.	
54.	87	4.1.4	Require more detail on access roads in a single "roads" section rather than scattered throughout the report. Each road segment should include details on its associated footprint including area to be cleared, length, width, any other road related work such as ditching, surfacing, maintenance, land tenure, access controls, expected use by public, etc. (see that some of the details are provided on p. 153). Also, area disturbed during construction should be identified. Also require discussion on environmental impacts associated with construction and maintenance of new roads and/or upgrades to existing roads, any identified values, and mitigation.	See attached updated drawing set showing road alignments and rough cut areas. Detailed drawings of the roads will be provided for the MNR Plans and Spec Approval.	
55.	88	4.1.5.1	Why is the up-graded bridge not being retained? Note that discussion with snowmobile club occurred, but did not see rationale as to value of retaining the smaller crossing.	Larger crossing now being retained permanently.	
56.	88	4.1.5	Require further detail on water crossings WC-1 and 2 – type of bridge (WC-2), footprint, access control, use management strategy including maintenance, decommissioning, etc. Require discussion on environmental impacts of crossings, any identified values, and mitigation.	Details of these water crossings will be provided during the detailed design / permitting stage of the project.	
57.	89-91	4.1.6	Conceptual drawings and associated water levels should be provided for the proposed structures.	Structures will conform to Transport Canada's requirements under NWPA for water crossings. See #56.	
58.	89	4.1.6.1	Levels suggested are based on just two years of field study. A detailed Hydraulic study should be completed and provided to reviewing agencies to ascertain levels at various flows and delineation of Head Pond inundation.	See attached graphs and charts summarizing existing and proposed hydrological conditions. See response at item #79 for reference to attachments	
59.	89	4.1.6.2	Conveyance Channel – Please provide additional details on use/location of rip rap versus shot-concrete. Is there any blasting involved?	Blasting will likely be required. Decision on the extent of use of rip rap, shot-crete or other will be made during the detailed design stage and options will be provided in within the Plans & Specs Approval. Exact extent of each element to be used will not be known until during construction when actual conditions of the channel walls are known.	
60.	89	4.1.6	p. 89 states that R-1 is the "probable" upstream extent of area of inundation. P. 97 states impacts will "generally" be limited to water bodies downstream of R-1. Area of inundation must be clearly identified, and discussion of site-specific impacts and	See #28 and attached updated drawing set.	

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			mitigation provided.		
61.	90	4.1.6.3	Is 234.40 the upper level of clearing or lower level of clearing?	Elevation 234.40 m was intended to represent the upper level of clearing (i.e. 1 m above normal operating range). However, this item was discussed during the January 24/12 meeting with an action item for MNR to confirm what the upper level of clearing should be.	
62.	90	4.1.6.3	Head pond vegetation clearing on Crown land should be 0.1m above the normal operational high water level - the slight increase will take into account such things as wave action, survey error, head pond topography (flat or steep bank slopes), need for refuge/shelter along the shoreline, etc. Clearing must be sufficient to reflect the anticipated operational inundated area to ensure there will be no dead or dying trees on the shoreline.	See #61. We await confirmation on this elevation and will make modifications accordingly at that time.	
63.	90	4.1.7	Conduit size should be linked to final determination of bypass flows, which is still under discussion.	Agreed, it will be sized to be large enough for adaptation to bypass/ eco-flows plus an additional 0.5 cms.	
64.	90	4.1.7.3	I can find no mention of water being allowed to pass through S-3. Please confirm. If no flow is allowed to pass, this must be identified in the EA and addressed in terms of baseline values and impacts.	No flow will be passed through S-3 except during construction and possibly during maintenance periods. Therefore, this area will be included in discussion with DFO on the potential for the requirement of a HADD	
65.	91	4.1.8.3	At time of construction, will the Work Permit be the responsibility of LCPI or the sub-contractor. Construction of submarine cable under the Serpent River needs to be addressed in this section (as the river bed is considered Crown). Separate the portion that is on Crown and private land in terms of distance (i.e. is 1000 m the total distance).	Work Permit – This will be the overall responsibility of LCPI, however, LCPI may delegate the responsibility to obtain and maintain it over to the Contractor. See #5 with respect to land tenure delineation.	
66.	91	4.1.8	The description of ALL infrastructures (LxW) should be shown on a general layout map at an appropriate scale to the area of Crown land disposition needs. Include ortho, contours, ownership. Show area of expected security needs.	See #5. With respect to security – During operations, all access roads will be open to the public. The powerhouse and switchyard will be locked to the public. During Construction, all existing access roads will be either fully open or partially open (closed lanes) to the public (depending on the nature of the work being performed) through-out construction. The Contractor will determine the limits of security fencing during construction. This will be provided during MNR Plans and Specs approval.	
67.	91	4.1.8.2	Sub-station does not appear to be on map. Please add.	See dwg. GA-3 Jan. 2012	
68.	91	4.1.8.3	Require more detail on transmission – total footprint including area to be cleared, length, width, land tenure, access controls, maintenance, etc. Also require discussion on environmental impacts, any identified values, and mitigation.	See dwg.P-2 Jan. 2012 and GA-6 Jan. 2012	
69.	91	4.2	This section should identify and address the direct and in-direct environmental impact associated with each component of the project (e.g. flow conveyance channel, new access, upgrades to existing access, etc.). Details should be site specific, and should identify the area of disturbance (e.g. stockpiling, etc. on p. 96 – where?; washing	See attached NEA Table CI1 *Lizard Creek Power-construction Impacts and mitigation-natural heritage-MNR Comment #69*	

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			stations – where? Specific distance to be located from water should be included – this was a request in the draft ESR comments); any expected residues or emissions; the severity of impact; mitigation activities to be employed, including location, timing, duration and frequency; location, nature and quantity of any on-site material to be used; residual effects, including severity, duration and extent; monitoring to be employed, including techniques, monitoring location(s), timing, duration, frequency, rationale and reporting; specific contingency activities to be provided should the mitigation activities not perform as anticipated (this was also requested in draft ESR comments), including timing, design and operational considerations if applicable; threshold to employ contingency activities (should be reportable and measurable); impacts associated with operation and maintenance activities.		
70.	92	4.2.1	Suggest turtle nesting period is included within the reasoning for clearing not occurring between May through to end of July.	Agreed. Clearing activities adjacent to water bodies will not be conducted during the turtle nesting season May 1st to July 31st.	
71.	92		Please define “periods of seasonal low water levels” to be utilized for purposes of construction.	Construction will be done within the in-water work window as defined by MNR and DFO as appropriate. This window just happens to fall within the low water flow levels i.e. Jun 15-Sep 1.	
72.	94		Please provide more specific details on location of silt fencing.	Please see attached drawing set.	
73.	95-96		EA states “shoulds” such as “an aquatic biologist should be present during the test blasts” and “sediment erosion control should be installed prior to.restoration works”. The use of “should” adds some uncertainty as to whether or not these actions will be undertaken, as other actions are identified as “will”. Please clarify.	Agreed. This change will be made.	
74.	96		“Only material free of fine particulate matter should be placed in the water.” There should be no materials placed in the water without DFO/MNR approval.	Agreed. The project will be required to obtain specific permits and approvals from both DFO and MNR prior to any construction or placing any material in the water. This will be included in the DFO Fisheries Act Authorization.	
75.	96	4.2.3	“All equipment operating near the water should be equipped with a spill kit.” This should be the same for equipment operating on land.	Agreed.	
76.	96	4.2.3	“Fish should be removed from the work area prior to de-watering and released immediately downstream of the furthest downstream coffer dam.” It is recommended that fish presence is monitored as dewatering occurs so that all remaining isolated fish can be captured and transferred.	The fish salvage details will be worked out with DFO and outlined in the required DFO Fisheries Act Authorization. In general, the proposed fish salvage protocol to be submitted to DFO will include multiple passes using appropriate gear and conducted by appropriately qualified individuals, until the catch equals zero. Water levels will be monitored until all fish are removed from the construction area. ***Draft Fish Salvage Plan:*** Fish salvage will involve the collection and relocation of	

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				fish from the isolated fish habitat prior to the commencement of any in-water works. The watercourse will be isolated by contractor using an impenetrable barrier to fish such as a coffer dam, steel plate, plywood sheet or rock check dam at the upstream and downstream extent of the in-water work area. The contractor shall have a pump onsite to remove water from the isolated area. The contractor will consult with NEA staff when to start and stop pumping to ensure water levels allow efficient work and minimal impact to fish. Fish collection methods will be chosen on site to best suit the environmental conditions, watercourse dimensions, estimated fish abundance and size. Both passive and active live fish collection techniques will be available on-site. Gear options on-site will include; seine nets, minnow traps and a backpack electrofishing unit. At a minimum, the selected gear type will be fished three times or until the catch is equal to zero to ensure all fish have been captured from the site. Fish will be live released downstream of the site in the same watercourse. The release site will be chosen on site by a fisheries biologist and will be of equal or greater habitat quality. Release site selection will encompass but not limited to habitat type and availability, water temperatures, probability of depredation and available cover.	
77.	96		Specific details are required on locations and, where appropriate, timing, of activities such as stockpiling, refuelling, silt fencing. Define an adequate level of effort for fish capture. How long will the referenced mitigation activities be employed for and what are thresholds for cessation of activities? Monitoring?	See attached updated set of drawings for construction staging areas. More specific details regarding uses etc. will be provided during the permitting stage of this project. Re monitoring: Fish salvage addressed in item #76. Construction phasing details will be outlined in DFO authorization in permitting phase.	
78.	97	4.2.3	April 1st to June 15th dates for no in-water work are correct for spring spawners, however, since salmon spawn downstream in the Serpent River, and presumably in lower Lizard Creek, a timing restriction of Sept 1 - Jun 15 is needed to protect them from impacts of sediment.	Correction has been noted and timing windows will be updated since salmon spawning was confirmed in 2012. In- water work will be limited to the period of Jun 15-Sep 1.	

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79.	97	4.3.1 - 4.3.3	In addition to the descriptions in these sections and the additional comments below, prior to Location Approval, a preliminary dam operating plan is required that identifies the month to month variability for flows at the tailrace, flows in the bypass reach and reservoir levels. In addition, the questions in the letter of Jan 12, 2011 in Section 3c) need to be addressed.(Please provide a comparison of the baseline hydrologic information relative to the anticipated operations. Alterations to the flow characteristics need to be described including how changes to the flow magnitude, duration, frequency, timing and rates of change may impact the natural environment. For example, it is unclear what the alteration in the magnitude, duration and frequency of the flows at the tailrace will be relative to existing flows.)	Baseline and proposed hydrologic information is attached See attachments Attachments Draft Operations plan July 2012 – 7 pages LCPI TABLE H-2 2011 LCPI TABLE H-1 2012 LCPI TABLE O/M #1 LCPI TABLE O/M #2 LCPI TABLE MH 2011 LCPI TABLE MH 2012 LCPI TABLE DL-1 LCPI TABLE DL-2 LCPI TABLE DL-3 Hecras profile modeling at R-1 – 6 pages See attachment “ESR Response Memo for MNR Comments_Aquatics	
80.	97	Proposed Hydrology	There is no mention of the impact that the increased frequency of 0.6 meter fluctuation will have on bank stability. Text suggests that since the proposed 0.6 meter fluctuation is within the seasonal range of fluctuation (low to high water) that nothing changes. This evaluation fails to recognize how the rate of change and increased frequency from low to high levels and back will impact shoreline stability. A detailed operating plan should be provided, and flow should be characterized by magnitude and frequency (how often), duration of time associated with a specific flow; timing (the regularity for which they occur); and the rate of change (ramping rate).	Erosion during construction is not anticipated at the typical bedrock shoreline – non typical erosion susceptible shoreline will be identified thru detailed design and erosion measures applied Erosion is not anticipated beyond natural parameters during operations - see response at item #79 for reference to attachments relative to lake level fluctuations.	
81.	97		EA states that inspections and repair of sediment…controls will be conducted ASAP after rain events. Please provide specific timing.	Repairs to sediment control measures will be rectified immediately as required. The Contractor will be directed to check these controls either during or immediately following a rain event (i.e. at the latest the morning following an event in the evening). More details will be provided in the permitting stages of this project.	
82.	98	4.3.1	EA states that; “As concluded in the above mentioned correspondence, it is expected, based upon observations and historical data, that the proposed flow of 0.065 m3/s, which falls within the current flow regime, will be suitable to support the aquatic community within reach 2 and 3. Fish species of various life stages are present, suggesting that not only are species able to survive within the current flow regime, but are also able to perform various life functions including, but not limited to, spawning, rearing and feeding.”	See new hydrological and ecological information noted elsewhere in the responses to these comments	

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			It should be realized here that these life cycles and production are dependent on the seasonal high flows and natural flow regime of Lizard Creek and not just on the minimum flow for this system. The minimum flow of 0.065 cms is not a regular occurrence, rather a low flow which occurs during extreme dry conditions a limited time throughout the year. This system functions on monthly average flows ranging between 0.42 and 6.07cms. 2.66cms will be rerouted through the conveyance channels and therefore, monthly flows will be decreased by 2.66cms through the bypass channel. According to average monthly flows, only the months of April and May exceed average flows above 2.66cms. Therefore, only the minimum flow of 0.065 will be available to the bypass reach in every month except April and May, when flows will only be slightly higher. This is a significant change within that reach of river. MNR is not convinced that this flow will sustain existing biodiversity and respective lifecycles upon operation of this facility with the current proposed ecological baseflow.	Note: Alternate power equipment is being proposed that will provide efficient production at lower plant flows. The new equipment will operate within a range of 0.900cms to 3.00cms , ramping in this range to suit operations modes discussed in the draft operations plan July 2012 (attached) See response to item #79 for details w/r to proposed operating modes, Bypass and Tailrace flows See NEA reports w/r to aquatic support in the Bypass reach	
83.	98/ 100		For mode #1 water can be selectively retained “stored” for 48 hours. On weekends the river will be restricted to the eco-flow for 48 hours, while the reservoir is being filled. What happens on the weekend after the impoundment reaches 233.7? For example, when the proposed reservoir is at capacity what will happen in terms of operation?	See response to item #79 for details w/r to proposed operating modes and subsequent effect on water levels	
84.	98	4.3.2	Windows for spawning activity should include incubation and nursery periods. Therefore, windows should be April 1 to June 15th and June 1 to July 31st.	Inwater work Timing Windows for Northeast Region (DFO Operational Statement) LC No in-water work from April 1st to July 15th. Fall Pacific Salmon - September 1 to June 15 Spring Walleye: April 1 to June 20 Northern Pike: April 1 to June15 Lake Sturgeon May 1 to June 30th Bass: May 15 to July 15	
85.	100		Flow management information will be required for major component repairs/works (includes those works that may affect the dam’s structural integrity or safety or may affect the waters or natural resources) within the Approval Process under Section 16 of LRIA.	Acknowledged	
86.	102	4.3.4.1	EA states minimum impact to water quality following mitigation. Please identify residual impacts. Additional details on effects during facility operation should also be provided.	See Table 4-8 Potential Residual Impacts to Water Quality -Change in thermal regime within head pond and bypass reach - thermal stratification of headpond - reduction in stream temperatures within by-pass	

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				reaches due to sub-surface low flow outlet from control structure -Soil and humus within headpond may increase available nutrients for primary production -Pre-construction monitoring of various water quality parameters in lentic and lotic habitats has been undertaken at 9 sites within the study area. The parameters being monitored are: pH , conductivity alkalinity , suspended solids, dissolved solids, cations (Mg, Na, Ca, K), anions (chloride, sulphide), dissolved organic carbon, nutrients, metals, mercury (total and methyl) , chlorophyll A and turbidity -water quality sampling as per protocol submitted to MNR and MOE commenced Aug. 2011 complete July 2012 – report to be included in Base Line . -Monitoring of the aforementioned water quality parameters will occur post construction	
87.	104		Water sampling stations – need specific locations, and timing (conflicting details in EA) and duration for monitoring.	See Attachment NEA "Figure 1- Water Quality Sampling Locations_V3"	
88.	104		Good details. Further details on timing, duration, locations, monitoring and quantifiable thresholds required. Sediment and erosion control plan – will this be provided to MNR for review? Seeding should be done with native species.	Yes, plan will be prepared and distributed to all parties during permitting stage. Any restoration or rehab work will only use native species.	
89.	106		Will a coffer dam be used to construct the control dam and rock fill dam structures? Please provide further details as to dewatering for construction of S-1 and S-2. How long will it take to fill the reservoir? Will the minimum ecological flow be maintained during this time?	From p 92 of EA The construction of the dam control structures (S-1 and S-3) will be done during periods of seasonal low water levels, to reduce impact on Lizard Creek. For S-1, a 600mm culvert with valve, will be placed through the bottom of the structure to pass river downstream during construction of the headworks. A similar process will be used for S-3, using a 300mm culvert, without a valve. The conduits will only be used for construction and possibly during future maintenance activities. After construction, the minimum ecological flow will be passed through a conduit in the concrete overflow weir at S-1. Construction of the flow conveyance channel (W-2), intake structure (S-2), and penstock (S-4) will consist of excavation work done in the dry, behind a rock plug. A stop log structure will be erected at the upstream end of	

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				the flow conveyance channel. The majority of the powerhouse (S-5) construction will be done in the dry behind a rock plug. A cofferdam will be installed should any downstream excavation be required. The cofferdams and the rockfill dams will be constructed during the required in-water window as stipulated by the approval agencies. Time to fill reservoir will be dependent on incoming flows. A minimum flow, however, will be maintained through the bypass channel during headpond filling.	
90.	107		"The supply of a constant flow to reach #3 will also result in an increase to overall aquatic habitat quality, mainly for benthics." This assumes that aquatic benthic invertebrates do better with a minimum constant flow than a variable natural flow in a creek. Please provide evidence that this is true or remove the statement.	Agreed, the statement should be removed.	
91.	107		Further discussion on submarine cable required, including location, entry and exit areas, length, values and potential impacts.	For location, entry and exit areas see attached updated drawing set. Note that there are two alternative routes being considered. See attached supplemental response attached, labeled Item #91, Impacts to Fish Habitat: Submarine Cable.	
92.	107	4.3.7.2	EA states no mitigation required for inundation area. Conflicts with statements in 4.3.7.14. Potential impacts would include changes to water quality, sedimentation and erosion, etc. Mitigation to be applied would include clearing of area, retention of stumps to minimize sedimentation, etc. Needs to be further addressed.	It is acknowledged that mitigation is required.	
93.	108		"current depths are relatively shallow and as such deepening of these areas will mimic **or improve** the current temperature fluctuations". If depths are shallow, it is expected they are isothermal. Please clarify what improvement would occur or delete "or improve".	Agreed, the statement should be removed.	
94.	108		"…ecological bypass flow proposed is expected to be suitable to support the aquatic community that currently inhabits reach 2 and 3…" Average monthly flows (page 45) are well above this value. The arguments provided to support no significant impacts or changes in benthic communities within the bypass reach are indefensible because they are based on the proposed low flow mimicking existing conditions which is not representative. This flow mimics low flows but not flows at any other time of year. It is basically assigning the lowest flow as the baseline flow for the whole year which should not be referred to as mimicking current conditions.	See Item 41 See attachment "ESR Response Memo for MNR Comments Aquatics"	
95.	109	Sec.	Suggestions are that increasing head pond depth and maintaining low flow will benefit	The fluctuation of water levels in the headpond will be	

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		4.3.7.8 :	species and diversity. I wouldn't call a riverine system stochastic in nature as it follows predictable flow and level patterns throughout the year. Ecosystems have adapted to these conditions. Also headpond fluctuations will likely impact wetland structure and function and the colonization of riparian areas by terrestrial and wetland vegetation. Please include some text addressing head pond level fluctuation with respect to habitats and wetlands.	controlled within a specific range (233.0-233.6 masl). The magnitude, duration and frequency of that range will change seasonally and be dependent on watershed runoff upstream. The creek and wetlands below R-1 will be within the new headpond and the 233.6 dam elevation. The lakes above R-1 will not be flooded or inundated as a result of the dam. These comments are related to the new wetland areas that will establish below R-1 in low lying areas, post-inundation. Wetlands are dynamic with species adapted to seasonal fluctuations. The colonization of wetland and upland species within the new shoreline will be dependent on a number of factors. Currently the beaver ponds and fluctuating levels have created bare open rock and mud along the shorelines of Lizard Creek in varying widths. This is seasonal but also affected by the state of the beaver dams (abandoned, active or leaking) and weather. Post-construction the new water line of the headpond will inundate upland habitats and result in a changeover to riparian vegetation. The headpond will fluctuate daily and seasonally in elevation but over a narrow range. This will allow wetland species to occupy the near shore and littoral habitats and shrubs to develop on the shoreline. Based on the current mix of grasses, emergent wetland plants, shoreline shrubs, sedges and tree species recorded in the existing wetlands, there is a high diversity of plants present that can occupy the new wetland areas, shorelines and littoral zones. The inundation of the headpond will allow the seed bank in the current wetlands to float into the new shorelines, germinate there and establish wetland communities within a short time period (1-3 years). Observations within the existing wetlands found the plants were subjected to periods of beaver flooding, changes to water levels seasonally and through beaver dams breaking and low flow periods. As such the plants were established in zonal bands based on elevation, slope, moisture, soil and sunlight aspect.	

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				Once the headpond is inundated the fluctuations will be a maximum of 60 cm from season to season and only 50 mm or less on a daily basis, these fluctuations typical of the natural occurrences. The small daily change will not impact on the success of the wetland species to establish or their success	
96.	110	4.3.7.12	It is indicated that whitefish were used to determine baseline mercury concentration. However, observations of whitefish were not included in the species list in recent studies for this site. Please explain – should this species have been white sucker?	This was a typing error. Should read “white sucker” not “white fish”.	
97.			Throughout document, there are a few places where (i.e. Table 4-3), mitigation is provided, however these items are not mitigation. For example – Species may benefit from new roads and hydro corridors as it may present new habitat for milkweed propagation. This is not mitigation.	Milkweed will occupy disturbed soils along the new roads as seen in the current snowmobile trail and hydro corridor. Mitigation will include similar measures as per turtles with speed restrictions that will reduce mortality, dust suppression, maintenance of existing habitats, monitoring of roads and new wetlands for milkweed species, limiting weed control measures and use of herbicides.	
98.	111		“a riffle located at the upstream end of lower lizard lake, where walleye are known to spawn, will be altered.” Please explain. This assessment must be addressed to understand the negative effects to this sensitive area, and mitigation can be provided. There seems to be too much uncertainty as to the extent of upstream flooding at high flows.	See response to item #79 for detailed tables w/r to pre and post development hydrology and operating modes and subsequent results at R-1 See NEA attachment “ESR Response Memo for MNR Comments Aquatics”	
99.	111	4.3.7.14	Point 2, Impacts – changes will occur within reach 2 **and 3.** Same comment for Point 2, Mitigation. Impacts to Reach 5 must also be addressed.	Reach 5 will be directly impacted by construction of the flow conveyance channel and powerhouse. The exact footprint will be identified when construction drawings have been finalized during the permitting phase. Mitigation Measures: -Sediment and erosion control measures shall be installed around the perimeter of all work areas prior to be dredge, prior to the commencement of work, and shall be maintained throughout the project to prevent the entry/outward flow of sediment into the watercourse. -All sediment and erosion control measures shall be inspected daily during the construction phase and periodically thereafter to ensure they are functioning properly, maintained, and upgraded as required. -All heavy equipment, machinery, and tools required for the work shall be regularly inspected and maintained to avoid leakage of fuels and liquids, and shall be stored in a manner that prevents any deleterious substance from	

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				entering the soil, or nearby watercourses. -Vehicle and equipment refueling and/or maintenance shall be conducted within a defined staging area as far from all shorelines as is practically possible. Any part of a vehicle and/or equipment entering the water should be free of fluid leaks and externally cleaned/degreased to prevent deleterious substances from entering the water. -Maintain vegetative buffers along shorelines. -Access to the work area should be limited to the route with the least impact to the upland vegetation. Use existing trails, roads or cut lines wherever possible as access routes to avoid disturbance to the riparian vegetation. -Any stockpiled materials will be stored and stabilized away from the water above the high water mark. -Vehicle and equipment refueling shall be conducted on impermeable pads/pans within a defined staging area. Expected Impacts: -Direct loss of indirect fish habitat -Loss of riparian vegetation -Alteration of tributary flows and potential tributary dehydration. -Impacts will be fully assessed with construction phasing has been finalized by assessing the work actions, potential impacts and interactions between project components	
100.	111		Based on the limited defensibility with respect to the biological and ecological rationale for selecting the proposed bypass ecological baseflow of 0.065cm, MNR requires further information with respect to changes that will occur within this reach. The rational for stating that “the ecological flow will mimic existing conditions in reach two“ is not logical. A decrease and loss of substantial wetted perimeter within the bypass reach could significantly impact abundance and diversity for these species. It is crucial that MNR understands changes that will occur within this reach during operations (i.e. wetted perimeter within the reach will provide some insight into habitat loss). Furthermore, as requested in MNR’s comments to the draft ESR information on the following; It is unclear what the alteration in the magnitude, duration and frequency of the flows at the tailrace will be relative to existing flows.	See response to item #79 for detailed table’s w/r to pre and post development hydrology and operating modes and subsequent results which speak to these comments. See additional attachments: See NEA attachment “ESR Response Memo for MNR Comments Aquatics All base line information will be detailed in the baseline monitoring report. Potential impacts will be monitoring through long-term monitoring plans with adaptive operational management approach.	

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			Additionally, what are the flows through the tailrace and bypass reach when the lake is filling? How many instances of very low or zero flows at the tailrace will occur with the proposed operations relative to existing? Will bankfull and riparian flows be achievable? What is the anticipated change to the rising and falling rate of change of flows and lake water level?		
101.	114	2nd para-graph	Is the vegetation matting a commitment? If so, the evaluation of the success of this mitigation should be a component of the monitoring program.	No, vegetation matting will not be conducted.	
102.	114		Wetlands – Site-specific impacts and proposed mitigation and monitoring should be provided here for input. Would also like to see mapping of current wetlands (3 ha) and potential new wetland habitats (2 ha).	The existing wetlands on site are shown on the attached figure UL1 (Lizard Creek wetlands-upper lakes-NEA July 2012) Impacts and mitigation are outlined in comment #95. The need for monitoring and the parameters to be examined will be determined at the permitting stage also see impacts Table UL1	
103.	114		Sediment traps for wetland re-establishment– please confirm their use, numbers and locations.	Locations to be determined through analysis of topographic mapping.	
104.	115		p. 9 states 14.23 ha of inundation. P. 115 states water cover will increase by 29.85 ha. Please clarify and identify why clearing will occur within 19.48 ha and where.	See #16 and #61	
105.	115		EA states construction will occur outside of breeding windows for birds and turtles. Please supply specific dates. May 9-July 31? See p. 119 re: snapping turtle and flooding not occurring prior to late Sept.	Breeding birds : May 9-July 31 Turtles: May 1- July 31 See Appendix11 project bird status report	
106.	116 - 118	Tab. 4-2	Mitigation for several species (e.g. pileated woodpecker) includes the item “post-construction monitoring to ensure species have found sufficient habitat in remaining areas on site and in natural areas outside of the impacted area…” Please provide further information outlining how this will mitigate impacts, and how the assessment of determining whether a species has found sufficient habitat will be undertaken. (note: same comment applies to Table 22 in the ESR (Appendix 5))	Post-construction breeding bird surveys will be conducted to assess the species present. This is specific to Canada warbler but will document all species heard or seen. While we cannot mitigate for the habitat loss within the flooded area, the regeneration of wetland and shoreline will compensate for most of the loss of those communities. The upland habitat can be monitored to determine if a change in the number of pairs has occurred. For SAR species this may result in the need for rehabilitation measures to ensure populations are maintained at pre-construction levels.	
107.	119	4-3	Is natural nesting habitat a limiting factor for SNTU in this area? How do you intend to monitor the impact of future fluctuations on nesting turtles in the area? Confirm use of artificial nesting as a mitigation measure. The District SAR biologist should be consulted.	The shoreline and proposed inundation areas are a mixture of rock outcrop, slopes of rock with shallow sand and sandy patches. As such there are a number of specific locations where SNTU can nest currently. This includes sandy banks in deposition areas where flows have eroded material. Post flooding, there will be the	

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				same type of substrates with upland areas of sandy soils. To augment the available natural habitat, artificial sandy nesting sites will be created along shallow slopes of the new flooded area by adding appropriate sandy soil material. This will provide additional suitable nesting substrate and allow for monitoring to include searching these new sandy habitats for nesting activity.	
108.	119 122	Tab. 4-3	Since milksnake (SC) is known from the area, and habitat is present, mitigation for this species should be included within this document as well as within Appendix 5 (Table 24).	Milk snake habitat is present within the general area. If milksnakes are using the upland areas within the inundation area, those areas will no longer be available. Based on the habitats and vegetation types present there is open field, logged areas, dry upland fields and regenerating habitats in the uplands areas. Mitigation will include speed limits on roads to reduce mortality, education of site workers, training of workers to deal with snakes on roads or in construction areas and maintaining suitable habitat outside of the disturbed areas for roads. Monitoring of the site can be conducted to address specific locations where snakes are observed by on-site workers or where mortality occurs. Solutions to this issue, if it occurs can be addressed by a biologist and MNR.	
109.	119		Details on mitigation require some further specifics. For example, identification of speed limit and areas to be posted for snapping turtle; identification of areas for wetland restoration/creation, monitoring protocol and timing for nests, etc. Please note, mitigation within the EA should be well defined at this stage and not framed as a potential approach.	Signage will be posted at locations near the headpond or crossings and where snapping turtles are observed.	
110.	122	4-3	Has suitable nesting habitat for BLTU been documented in upland areas next to proposed inundation areas?	There is potential suitable habitat in the lower reaches of the inundation area but NEA has not documented sightings of Blanding's turtle in the study area nor any nesting sites. Several sandy areas contained diggings by turtles with a few snapping turtle eggs but no egg shells of Blandings.	
111.	122	Tab. 4-4	Gartersnake, leopard frog and wood frog are listed as present in the Environmental Study Report (Appendix E), but are not included in this table. There are also some very common herps that are likely present on the site, but were not documented (i.e. American toad and eastern red-backed salamander). Consideration should be given to these species	Those species have been added to the table. The mitigation would be the same as for the other species in Table 4-4. Red-backed salamanders inhabit upland slopes with woody debris and rocks, heavy shade and moist soils/seeps.	
112	134	4.3.16	Last line of 4th paragraph states, "Change in flows have been modeled in HEC_RAS and are presented in Appendix G." Will proponent make reference to page number where this can be located, as a reference could not be located in Appendix G.	See response at item #79 for reference to attachments relative to HEC-RAS	
113		Trans-	The current information within this document is not sufficient for MNR EA approval;	See #68	

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		missio n	further information is required (location of infrastructure, project layout and dimensions). Furthermore, a detailed description of the use and extent of Crown and private land is needed, including construction and post-construction. Who will be ultimately responsible for the line and hence the holder of the tenure requirement?		
114	134	4.3.16	Please provide further detail on discussions that have occurred thus far with stakeholders on the closure of roads. For example, what were the results of discussions with stakeholders? The minimum area of restrictions needs to be defined for the purposes of this EA so that adequate consultation can occur.	There are no road closures planned with the exception of the replacement of the temporary bridge WC-1 (snowmobile bridge) that will be completed within 1-2 days outside of snowmobile season. Letter from Spanish Snowmobile Club previously provided	
115	134	4.3.17	EA states access will not be limited for the purpose of trapping except for gates on new roadways. Please provide a detailed account of stakeholder consultation relating to this?	This project will not limit access that is presently available	
116	135		EA states “it is concluded that changes to the flow regime is not anticipated to have a significant impact on benthic organisms because they have emerged and are no longer dependent on the aquatic environment , and mating and ova deposition will not be inhibited”. Please provide rationale. What is the temporal scale that assumes no significant impact on benthic invertebrates?	See response to item #100	
117	136	4.5.2.1	Speaks to ice formation within the conveyance channel, and how this situation would be dealt with. Nowhere within this report or the Environmental Report is there discussion on the chance of freezing within the bypass reach due to low flows. This situation as well as impacts to the natural environment need to be addressed so that mitigation measures can be applied. Freezing within the bypass reach can have adverse effects on benthic invertebrate populations.	Water will continue to flow thru the Bypass reach under snow and ice cover as it would in the natural state See LCPI TABLE H-2 for illustrated values of typical flows in bypass thru the winter months – also see evidence that fox creek flows of less than 0.1 cms. continue unabated thru winter months.	
118	136	4.5.2	Further discussion should be included on potential for erosion during operations.	See	
119	138	4.6.4	A detailed Dam Break Analysis and Risk Analysis should be the basis of classification of Structures S1 & S2.	Dam Breach info: S-1: Height = 9.3 m Vol (m3) = 588,501 Class by height = Medium Class by volume = Medium Class overall = Medium S-2: Height = 7.5 m Vol (m3) = 37,400 Class by height = Low Class by volume = Low Class overall = Low Both S-3 and S-1 are determined to have a potential hazard potential classification of Low given downstream	

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				characteristics.	
120	138	4.6.3	The post construction or operations EPP is to be circulated to the MNR district and regional engineering.	Agreed.	
121	140	Tab. 4-8	Residual impacts should be identified in addition to rating for significance as well as justification provided.	See Item #86	
122		Tab. 4-8	Needs to include an assessment of impacts to Reach 5.	See response to item# 64	
123		Tab. 4-8	Good table. Would have liked to see this extended to identify impacts, mitigation and monitoring, residual impacts, contingencies and thresholds.	The listed items could be addressed in the monitoring plan and the format may be changed at that time	
124	142		Please explain what is it about the current hydraulics that suggests that a new dam will not change sediment and nutrient transport downstream? Beaver dams last on average 10 years and then they are gone, and the sediments and nutrients that have accumulated are released downstream. The new dam will change sediment and nutrient transport downstream given simply by the permanency of the dam. Aquatic productivity will be reduced because of entrapment of nutrients and sediment behind the permanent dam versus temporary beaver dams.	Agreed: Sediment transport regime was not assessed. However baseline water quality was collected in 2011 throughout Lizard Creek (see Figure 1. Water Quality Sample Locations). Nutrients (Chlorophyll-a and Turbidity (NTU)) samples have been collected to allow the assessment of primary productivity or sedimentation loads (as per MOE requirments). Data is currently being analyzed. Potential impacts will be assessed further based on the water quality baseline data. Updated Text on Page 142 will read as: Fish and Fish Habitat Potential Impacts: Sediment and nutrient transport altered by the dam. Mitigation: None Residual Effects: Bypass: Higher retention of fines in bypass reach due to stabilization of flow regime. Headpond: Increased in nutrient levels and sediment due to an increased inundation area. Tailrace: Reduction of large sediments. Suspended fines and dissolved nutrients will be available downstream of powerhouse. Frequency and rates of nutrient and sediment transport will be altered by operational cycling. Residual Significance: Low to Moderate Nutrients will be monitored post construction.	

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125	144		Given the proposed minimum flow, it is expected that a loss of invertebrate production will occur within the bypass reach, and in reach 1 and 2 due to drying associated with water storage to accommodate reservoir recharge.	See response to item # 41	
126	152		What are the cumulative effects of existing as well as proposed hydro peaking projects on the ecological function of the Serpent River if all projects hold back flows during non peak hours to pulse at the same time for premium peaking subsidies with similar 95 percentile base flows and sediments locked up behind all the dams?	We are unaware of any other proposed peaking projects and it is our understanding the existing Brookfield facility on the Serpent is a run-of-river facility.	
127	152	5.2	Cameron Falls is on the Aux Sable River system, not the Serpent River.	Error – Remove reference, correct sentence to state: "Currently there are two (2) hydropower facilities that operate along the same water system as the proposed project: Serpent River GS, and Serpent River First Nation GS.	
128	152	5.2	How will Cameron Falls be impacted?	Error - Cameron Falls reference to be removed.	
129	153	5.2	Further detail on the layout of the facility (i.e. dimensions on a map) is required to determine area needs for the entire facility. Restrictions and security locations need to be clearly provided at this time. Please address and promote public safety during operation, or provide other means (mitigation) to provide the same without gates on roads.	See attached new drawing set Jan. 2012 See response item # 66	
130	156	6.1.3	Invertebrate monitoring should be included in post construction monitoring.	The baseline benthic sampling has been conducted with monitoring to follow, post-construction. See NEA attachment "ESR Response Memo for MNR Comments Aquatics"	
131	156	6.1.3:	For section 6.1.3 as well as 4.3.9.2, monitoring of wetland development and function should occur post construction to determine effectiveness of new flow regime in the inundated areas. It is unclear how the system will experience habitat benefits as stated with water level fluctuation in the ponded area. This assessment should occur until wetlands have become re-established or determined to have failed and therefore additional mitigation/compensation measures outlined.	Monitoring transects and quadrats will be established in the new wetland habitats to monitor changes in the vegetation over time and overall success of the wetland community. This will be an adaptive management approach with monitoring to be conducted in the first three years. Monitoring will include wetland species, coverage of wetland types (shoreline, marsh, swamp, submergent). In those shallow environments compensation measures could include plantings, seed dispersal or transplanting specific species. Based on the wetlands currently existing in the Lizard Creek system and the natural beaver activity wide fluctuations in water levels are currently occurring. Wetland communities expected post development includes low shrub thicket swamp, treed swamp, shallow marsh and emergent marsh.	
132	156	6.1.3	How often is post construction monitoring for potential fish impacts proposed? What are the details of those investigations? How will you draw conclusions based on your findings (i.e. what determines a significant impact)?	Acknowledged. Post construction monitoring plans will be developed with agency at the permit and approvals stage.	

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133	157	6.1.3	"Flow through the base of the dam will be capable of passing up to a maximum of 0.6cms for construction…" This number was 1.0cms in previous text (page 90). Please clarify.	*Typo –p 90 should read 0.60cms	
134	158		Water quality in the bypass reach is the most likely to be impacted. A water quality station should be located in the bypass reach to properly monitor impacts. Water quality also includes temperature. Temperature loggers are preferred in addition to field temperatures at the time of sampling. Several should be employed in the bypass reach in advance of construction for baseline data. Include turbidity, and chlorophyll a. Also need to monitor peripyhton in the bypass reach, because it could overwhelm the rock surfaces with the reduced flows.	Temp loggers have been deployed in bypass see "Fish Community and Aquatic Biomonitoring Results_January 20" Water quality map attached. Base Line Water Quality sampling is complete – report to be included in Base Line Doc.	
135	159	6.3	Recommend several stations in the bypass reach be selected with MNR's assistance to ensure representative areas are selected with more baseline prior to construction.	See response to item # 41 & #94	
136	159	Walleye	Please provide discussion on walleye abundance upstream associated with a backwater effect on spawning area at R-1.	Upstream of R-1, in Lillie Lake and Upper Lizard, walleye stocking assessments were conducted in 1977.1984 and 1990. In all assessments 24hr gill net were deployed and a cumulative total of 2 walleye were captured. Despite stocking efforts, walleye CPU was very low upstream of R-1. More information on Lille Lake walleye sampling and fish community has been provided in the attached NEA report "Lillie and Upper Lizard Lake Baseline Fisheries Data" See response at item #79 for reference to attachments relative to backwater	
137	160	Fall Salmonids	Report needs to recognize that the abundance of fall salmonids is a function of Lake Huron fisheries management objectives. Currently management strategies are focused on lake trout and deep water spawning stocks. Should Lake Huron Management Strategies revert back to fall spawning salmonids then fall spawning flows may have to be accommodated at this proposed facility, if approved. Similar applies to provincial or federal recovery plans for sturgeon restoration strategies. Access from the North channel via Serpent River to Lizard creek will be directly affected by the water levels in the Great Lakes. Since the expected life expectancy of the project is 100 years, it is reasonable to assume that lake levels and fisheries management objectives will change during this time, requiring possible changes to regulated flows and levels to accommodate these changes. Similarly, flows will need to be suitable for LAST if they are found in the future and/or if recovery strategies dictate the Serpent River and its tributaries to be a system that can positively contribute to those efforts. Similar to comments provided by MNR in January, upon review of the draft ESR – MNR requires more detail in terms of targeted BLTU surveys.	Acknowledged, species specific concerns should be identified by agency during the permit/approvals process.	
138	162		Recommend using level loggers instead of staff gauges and visual monitoring for unbiased sampling.	Data Loggers have been installed and are currently being monitored.	

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				See LCPI TABLSE DL-1 THRU DL-3 for results to date	
139	162	1st sentence	EA states: "Should the project be approved and developed, post construction sampling should be undertaken every three years. The duration of the monitoring after the 3 years proposed will be discussed as part of the approval from MOE." Should this read post construction monitoring will be conducted once per year for 3 years? Prior to LRIA approvals, a post-construction monitoring plan will be required. At this time, discussions with MNR should occur so that an adequate time period and frequency of monitoring is agreed upon. At this time, MNR recommends that post-construction monitoring be conducted on year 1 and year 2, and then every 2 years until there is agreement on the ecological baseflow. Further discussions are required.	Agreed. "Should the project be approved and developed, it is recommended that post construction monitoring duration and frequency of monitoring will be discussed with MNR in the permit/approval process.	
140	162	6.9	EA states "Predictions in the impact assessment analysis are that walleye spawning and nursery habitat will not decline due to realized flows below the tailrace of the new power canal." Impacts need to be addressed regarding the spawning grounds upstream between Upper and Lower Lizard Lake.	Agreed operations will be adjusted thru the spring spawning window See response at item #79 for reference to attachments The R-1 walleye spawning habitat has been modeled and provided in the attachment HEC-RAS- at R-1 "spring" and impacts to spawning grounds have been discussed in the NEA attachment "ESR Response Memo for MNR Comments Aquatics"	
141			As an adaptive management approach is being proposed, a detailed post-construction monitoring plan must be provided to MNR prior to issuance of LRIA approvals. The plan should include detail methods, agreed-upon indicators with MNR, information requirements, assessment criteria and evaluation.	Agreed. Detailed post-construction monitoring plans will be developed with MNR in the permit/approval process.	
142			Information provided to MNR for the bridge replacement work permit highlighted some general mapping on private, acquired Crown and unalienated Crown. Upon review of the ESR, it is not clear where all of the facilities and infrastructure relating to this project will be located (location, size, measurements, etc). Obtaining the title search information for all lands within the project area will confirm Crown title vs. private, any Crown reservations on the private, and restrictions on the Crown land. It is recommended that the proponent provide MNR with PIN's, patent copies, any surveys, and parcel registry for the lands in question. This request is essential if this document is to cover all Crown land dispositions.	See comments #65, 66	
143			As the high water mark has not been delineated, MNR is unable to ascertain the full extent of Crown Forest which will need to be harvested or the Crown land that will be disposed of and removed from the SFL (Sustainable Forest License). Mapping and detailed account of lands required needs to be provided to clearly identify the upper extent of flooding.	This will be done prior to obtaining a work permit during the permitting stage of the project.	
144			There will need to be an amendment to the SFL to remove said affected/disposed of Crown lands from the SFL.	Acknowledged – to be discussed with Mike Young @ MNR	
145			An OFRL (overlapping forest resources license) for the harvest of all tree removal	Acknowledged	

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			associated with this project will be required. a. This must be one of the existing OFRL'ers on the Northshore Forest SFL; b. Discussions must occur between the proponent and Northshore Forest inc., the SFL holder, as to who the OFRL'er will be and what facility (mill) will receive the harvested material; c. An overlapping Agreement must be in place between proponent, SFL, and the OFRL'er before harvesting, exemption, and license will commence;		
146			There must be a CFSA (Crown Forest Sustainability Act) exemption for the harvest and renewal of Crown Forests as to not affect the Forest Management Plan (FMP) with respect to this entire project; a. Information needed for this exemption is as follows: i. Tree species within areas to be cleared; ii. Volume in m^3 by species to be harvested; iii. Map of area to be harvested in black and white to mapping specifications as per Forest procedure and protocol (attain from Dennis McLeod, Senior Forest Technical Specialist email: dennis.mcleod@ontario.ca or (705)356-3014); iv. Area in hectares (ha) and Km^2; v. Area, map, species, and volume will need to be divided into 25 ha portions due to exemption criteria. If the area is less than 25 ha, all information can be done in one exemption and one license; if greater than 25 ha, area will need to be subdivided into 25 ha portions.	Acknowledged CC Mike Young @ MNR on correspondence with Dennis McLeod This will be done during permitting stage of the project.	
147			Roads and water crossings must remain usable and accessible by public and the Forest Industry and thus an agreement must be arranged between proponent and the SFL as to maintenance and use of the road(s) and crossing(s); MNR requires a signed agreement or letter from SFL, proponent, and potentially OFRL'er demonstrating this agreement.	LCPI has received letters from the Township and HONI confirming approval of use of roads (previously sent to MNR). It is agreed roads and water crossings will remain usable and accessible by public and the Forest Industry as per current constraints. LCPI will obtain approval from SFL in the form of an agreement or letter during the permitting stage, prior to construction to confirm SFL's acceptance of the proposed use of the existing roads as required.	
148			The proposed temporary water crossing will be needed in the future for maintenance and access to the site and thus must be a permanent structure; a. This must be a crossing/bridge that is engendered for the use of project construction equipment and certified by an engineer; Consideration to the snowmobile association with respect to maintenance, continued use, transfer of ownership, etc. should be addressed.	This structure will now be permanent and meet engineering requirements LCPI will own this bridge and will be responsible for its maintenance.	

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149			Has the SFL been contacted and informed that the forested area will be removed? This process could take some time, as the MNR does not have the authority to authorize this amendment.	Yes, SFL has been contacted; further details will be worked out with them once the clearing line is finalized during the permitting stage.	
150			It is crucial that a list and description of all MNR permits, dispositions, easements, and leases are addressed within the Environmental Assessment. Further detailed descriptions of all project components and infrastructures need to be provided with respect to Crown Land MNR permitting requirements and dispositions.	See #14 and #3	
151			At this time, MNR must be certain that there are at least agreements in principle on continuing access on private land (municipal); transmission line agreement with HO; and interface of the snowmobile clubs during regular operations (the current letter covers off the work permit for the bridge only), for the lifetime of this facility. Also MNR needs to see documentation on consultation with the local trapper(s) and any concerns they may have with access or road restrictions. Results of all discussions and consultation must be provided within the EA document.	Township lands – agreement in principle previously submitted to MNR HONI – agreement in principle previously submitted to MNR Snowmobile clubs – agreement in principle previously submitted to MNR There will be no access restrictions planned to areas currently accessible to the Public and stakeholders	

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