Policy and Process	
Appropriateness Use of Addendum Provision	See attached legal opinion with respect to this issue.
Site Release	The MNR site release process is not part of the EA mandate under the EAA. No change to site release has occurred from that reviewed by the MOE Minister in May 2012.
Flows and Levels	
Impacts of modification to tailrace flow direction with respect to navigation and riparian rights of downstream dock owners	Flow modelling provided in the Addendum Report was based on a slightly different configuration than the proposed general arrangement. Modelling for the proposed general arrangement has been posted on the project website at www.balafalls.ca. This modelling illustrates the following three conditions: 1. Existing conditions - under high flow event (Q2), 117 m3/s would be passed over the north dam. 2. Proposed conditions – under normal spring freshet flows, plant flow = 96 m3/s, flow over north dam = 2 m3/s. 3. Proposed conditions - under higher spring spawning conditions (i.e. 2 weeks/year in April or May), plant flow = 96 m3/s, flow over north dam = 9.5 m3/s. Note that for extreme flow periods (Q2), the flows through the north channel would be reduced from that shown in #1 scenario, since flows in the north channel would be limited to 105.5 m3/s until the south dam has reach capacity. In other words, during the 1:70 year flood the north channel would currently still only pass 105.5 m3/s (as per #2 scenario) and the remaining 195.3 would be passed over the south dam, with 4 m3/s to Burgess GS. It should also be noted that during the peak recreation period, river flows are significantly lower than above. Flows through the plant will be significantly less, ranging from an average of 16.4 m3/s in August to 46.4 m3/s in October. Generally flows for the months Jun-Oct are less than 50 m3/s. Statistically, flows through the north channel (plant flow + flow over north falls) will be less than 50 m3/s: • 65% of the time for months June and October • over 85% of time for July, and • over 90% of the time for August and September
Modification of tailrace flow direction with respect to creation of downstream gyre	In the typical high spring flow (96 m3/s), there is a slight circular action downstream of the falls which can be seen in the updated modelling figures attached (see above response). This is significantly less than the existing conditions under the same flows as seen in Figure 6.2a of the Addendum. It should be noted that during summer recreation period were typical flows are generally less than half of that shown. (see above response)
Impacts of modification to intake location with respect to navigation and riparian rights of upstream dock	The change from Alternative 2D to 1A includes a relocation of the intake structure further downstream. The impact of this change to both Purk's Place and the Township of Muskoka's Bala Bay Docks will be positive, as the intake will be further away and velocities will be lower at these areas. Modelling results have been

owners – Purk's Place and Township of Muskoka (Bala Bay Town Docks)	provided in the Addendum Appendix E. For further information, see attached letter to Transport Canada last fall regarding this issue. Impacts to upstream Purk's Place and the Township of Muskoka's Bala Bay Town Docks will not be worsened, and may be improved from that evaluated by the Minister in May 2012.
Cycling operations plan	The ESRR described a run-of-river operations plan. Subsequent to the filing of the Notice of Completion in October 2009, MOE Director placed conditions on the operation of the facility based on an agreement made between SREL and Ontario Power Generation to cycle the facility during extreme low flow conditions. When SREL determined it was changing its layout from Alternative 2D to Alternative 1A and an addendum was being prepared, a decision was made to include a description of the cycling operations plan and the possible adverse effects as a result of it for completeness of the records. The MOE Director's decision was subsequently reviewed by the MOE Minister and found to be appropriate. Therefore, this issue does not represent a change in the information reviewed by the MOE Minister in May 2012.
Scenic flows over/through existing dams	A follow-up meeting is planned with the Flow Distribution Committee following completion of the EA to discuss the proposed Amendment for the Muskoka Water Management Plan Amendment. The proposed flows through the existing North and South Bala Dams has not been changed from that outlined in the original ESRR and reviewed by the MOE Minister in May 2012.
Water levels	Proposed water levels are all outlined in Section 9 of the ESRR under the discussion regarding the proposed amendment to the Muskoka River Water Management Plan. The MOE Director's Decision of March 2011 outlined further conditions for the project with respect to water levels including a provision for cycling during extreme low flow conditions. Therefore, there has been no change to the proposed water levels, operations, or water management from the material reviewed by the MOE Minister in May 2012.
Cycling in winter – ice stability	Based on historical records, the monthly average flow did not fall below 26 m3/s during the winter months (Dec-Apr) for the 70 year period of record (1937 through 2007). However, in the future, should such a condition occur during the winter period when there is ice cover on the lake, an assessment of the ice thickness and ability to withstand a 2" drop in water level will be made prior to any cycling. If conditions are found to be unsafe, the facility will not be cycled.
Summer leakage (Alice Murphy comment)	From review of the calculations Mrs. Murphy has done on her spreadsheets she has calculated flows over north falls to be: Flows over north falls = Total flow (Chart A) – flows through north channel (Chart B) – Burgess Flows (Chart D) – Flows over South Channel (based on her calculations) (Chart F) In reality, flows over the north falls = flows through north channel (chart B) – plant flows. Plant flows are actually calculated as the flow through the north channel minus 1.5 m3/s plus any flows in excess of 99 m3/s for Nov-Mar and 9.5 m3/s plus

	any flows in excess of 107 m3/s for Apr-May. The flows shown Table B of the Addendum Report, or referred to as (Chart B in her letter) clearly indicates that it represents Flows in the North Channel. Contrary to her conclusion, flows in the north channel do not equate to plant flows, they represent plant flows plus flows over/through the north dam. Therefore, her calculations are flawed and do not represent what was presented in the Addendum.
Construction impacts and design	
Impacts of intake excavation on existing highway bridge and dam	Rock excavation will be required in the north channel beneath the MR 169 bridge, and in close proximity to the existing north dam. All excavation will occur between and downstream from the bridge support piers (as shown in Figure 2.1 in the Addendum), but none will occur in the area surrounding the south support pier of the bridge, as suggested in the comment. Also, the intake will not replace the south sluice of the north dam, as suggested in the comment. Blasting is the most likely means of breaking up the rock, although mechanical means will be considered as well. There are numerous examples of successful rock excavations in proximity to existing concrete structures, including bridges and dams. For example, in 2011, for a waterpower project located in New Brunswick, a similar excavation was required to be performed immediately adjacent to a highway bridge pier. Excavation will be designed in accordance with standard practice for controlled perimeter blasting by a professional Engineer and executed by a licensed blasting professional. These designs will make use of proven techniques to prevent damage to adjacent structures. As part of the construction process, detailed blasting plans will be prepared to lay out the blasting methodology, procedures, schedule, responsibilities and monitoring requirements. The maximum allowable peak particle acceleration will be specified with appropriate safety factors based on proven engineering values. A detailed blasting monitoring program will be specified to ensure that blasting is meeting the performance requirements.
Impact on flood passing capacity when cofferdam in place during construction period	The cofferdam in the north channel around the intake structure will be in place during a limited period outside of the spring flood period. The north and south Bala dams will both remain in operation and in the highly unlikely event that a flood occurs during this time in which the cofferdam is in place, the design flood can be safely passed with lake levels being maintained within the historical range of flood water levels for Lake Muskoka.
Technical drawings for powerhouse	Technical drawings for the Alternative 1A powerhouse and intake structure will be completed after tendering has been completed for the generating equipment (i.e. turbine and generator) and issued to MNR for Plans & Specs Approval under the Lakes and Rivers Improvement Act. The permitting stage is expected to start immediately following completion of the EA process and will likely last approximately 6 months. The plans and artist rendering provided in the Addendum are considered to be detailed enough to evaluate appropriate size of facility to accommodate all required equipment and work areas for the purposes of Environmental Screening.

Traffic disruptions from Blasting under bridge	Traffic on MR-169 would have to be temporarily halted during each blast conducted beneath and adjacent to the road bridge. Under a worst-case scenario, traffic would be halted for up to 1.5 hours while charges are loaded, the blast occurs and subsequent inspections, including review of seismograph data, are conducted, although typically, traffic would only be halted for an up to 15-minute period during the actual blasting event. Blasting is anticipated to occur over an approximately 1 month period, outside the tourist season to minimize disruptions during periods of heaviest use. Blasting will also be scheduled for early evening or other periods recommended by the District and Township to minimize traffic disruptions. Media notifications will be used to increase public awareness of blasting events and potential delays, signage will be posted around the area and flagmen will be used as necessary. The blasts would be restricted to the same time each day. Finally, in the event of an emergency requiring response vehicle passage over the bridge, all blasting activities would be immediately ceased to allow passage to occur. Emergency response authorities, the Township and District, will be alerted to blasting activities in advance and response authorities will be instructed to contact the blasting supervisor as soon as possible during an emergency scenario such that blasting activities can be halted.
Back-up generator	The ESRR outlined the use of a back-up diesel generator and stated that it would meet MOE guidelines for emissions from stationary sources. Furthermore, a Certificate of Approval (Air) will be required from MOE under Section 9 of the EPA. The plan for the back-up generator is unchanged from the ESRR reviewed by the MOE Minister in May 2012.
Fisheries and Species at Risk	
Fish mortality	The mortality formula requires the use of the "net" head value for the site, which for this project, is 5.3 m. The 6.2 m value identified in the Addendum and ESRR is the "gross" head value, which is not applicable for use in the formula. Therefore, the correct head values have been used to estimate fish mortality. The mortality estimates were completed for the single turbine option, since this is the preferred alternative. Ultimately, SREL will have to obtain an authorization under the *Fisheries Act* regarding fish mortality due to operations of the facility. This will necessitate that DFO approve of the fish mortality estimates and associated mitigation and monitoring measures before an authorization would be issued. If the two turbine option is ultimately pursued, the estimated fish mortality would have to be approved by DFO at that time. However, for completeness, the table below presents the mortality estimates for a two turbine alternative arrangement, using a 2.5-m diameter turbine with four blades and a net head of 5.3 m. The estimated mortality is associated with passage of an individual fish through one of the two turbines. The original mortality estimates from the ESR and the one turbine option provided in the Addendum are also noted in the table. Table 6.2 Estimated Fish Mortality Due to Turbine Passage

<table>
<tr><td></td><td>
<table>
<tr><td>Fish Size Class (mm)</td><td colspan="3">Estimated Fish Mortality Due to Turbine Passage (%)</td></tr>
<tr><td></td><td>Alternative 2 D (original ESR)</td><td>Alternative 1A (One Turbine Option)</td><td>Alternative 1A (Two Turbine Option)</td></tr>
<tr><td>200</td><td>4.4</td><td>4.5</td><td>6.3</td></tr>
<tr><td>300</td><td>6.0</td><td>6.3</td><td>9.4</td></tr>
<tr><td>400</td><td>8.0</td><td>8.3</td><td>13.1</td></tr>
<tr><td>500</td><td>10.1</td><td>10.6</td><td>17.1</td></tr>
</table>

The two turbine option does result in increased rate of mortality for fish that are entrained and pass through the powerhouse due to the smaller diameter of the turbines. However, as noted in the original ESRR, the number of fish moving through the powerhouse is anticipated to be relatively low, given that the intake flow velocity will permit escape of most fish species (both large and small) and that the trashrack bars will provide a further deterrent to entrainment through the powerhouse. Additional monitoring and mitigation was also proposed in the Addendum to minimize entrainment through the powerhouse. Also, downstream movements of fish over the North Bala Dam at the present time are not anticipated to be extensive, since downstream movements at this site are not part of a natural migration corridor from Lake Muskoka to the Moon River (since upstream migration is not possible), the amount of fish moving through is anticipated to be low. Therefore, the overall number of fish killed due to turbine passage is considered to be low.

As noted previously, if the two turbine option is selected as preferred, DFO, in consultation with MNR, will have to approve of the fish mortality estimates, mitigation and monitoring commitments.
It should also be noted that a two unit configuration was also considered in the original ESRR that was reviewed by the MOE Minister in May 2012.</td></tr>
<tr><td>Modification of tailrace flow direction on fish habitat</td><td>The velocities over the spawning beds along the north shore are dependent on the amount of flow over the dam and would not be impacted significantly with respect to the change in location of the powerhouse and outfall. As described in the Addendum, these velocities will be checked post construction to confirm that the proposed 9.5 cms will provide sufficient velocities for spawning. Flow over the dam during spawning activities will be modified accordingly if required.</td></tr>
<tr><td>New turbine effect on spawning beds</td><td>The orientation of turbine (vertical or horizontal) and number of turbines will have no impact on the spawning beds along the north shore. The overall capacity and plant flow is unchanged from that provided in the ESRR and reviewed by the</td></tr>
</table>

	Minister in May 2012.
Species at Risk	No changes are expected with respect to species at risk. This is stated in the Addendum Section 4.4.3. – See response to MNR with respect to this issue.
Socioeconomic	
Portage	The land north of Bala North Dam and south of Mill Creek is referred to as "Portage Island", not the area between the Bala North and South Dams as referenced in some public comments (See Appendix C8 – Heritage Impact Assessment from the original ESRR). The street running along the south end of Portage Island is called Portage Street. There is currently no designated or signed portage route at the Bala Falls area, nor is there any history of there ever being one. While there is evidence of some portaging taking place at the south shore of the north Bala Dam, there exist alternate portage routes, namely through Portage Island i.e. take-out at the Town Dock in Bala Reach, along Portage Street and across District Road 169 to the upstream put-in at the Town Dock on Bala Bay adjacent to the Portage Landing Parking Lot. Alternative locations for the downstream portage take-out/put-in points include south of the proposed powerhouse (either north or south of the south channel) and the public beach area at Jaspen Park. There are no adverse affects to the existing upstream take-out/put-in locations under the Addendum from that plan evaluated by the MOE Minister in May 2012. In fact, the Alternative 1A plan described in the Addendum eliminates the planned modification to one of the upstream portage take-out/put-in locations adjacent to Purk's Place as described for Alternative 2D, representing a net positive impact. It should be noted that the proposed project location described in the Addendum will be in the same location as the original powerhouse that was in existence between 1924 and 1972, thereby creating a similar public access/portage restriction immediately south of the North Dam for nearly 50 years as proposed in the Addendum. The attached historical photo clearly shows that prior to the construction of District Road 169, the walking path/portage route was located significantly south of the proposed powerhouse location.
Sirens and Stobe Lights	No sirens or stobe lights are proposed for the project. The facility will be slowly ramped up when turning on or increasing capacity to ensure safe upstream conditions.
Noise	A noise assessment was prepared as part of the ESRR for Alternative 2D and part of the evaluation material reviewed by the Minister for his May 2012 decision. This assessment remains applicable to the Alternative 1A layout i.e. no net adverse effects are expected due to the change to Alternative 1A.
Heritage impacts	The Alternative 1A plan is located entirely on crown land. Some of the surrounding municipal lands have been proposed for designation, however, these designations are being appealed and no appeal date has yet been set. The land on which the

	project will be located, however, has not been proposed for heritage designation. Furthermore, the facility would be located further away from the heritage Church and the list Purk's Place building, resulting in a positive net effort for these structures.
Heritage Tree	There are currently no trees on the site that have been designated as "heritage trees". The Township's Heritage Committee has received a Nomination (dated December 22, 2011) for a tree on this land to be designated, but to our knowledge, as of this date, it has not been listed for designation or designated. Note that the tree in question is located on crown lands, therefore, the municipality does not have the authorization to designate this tree as a heritage tree. This tree will need to be removed during construction. Furthermore, some of the statements made in Nomination Report for this tree are questionable, in particular that this tree would have been used as a trail marker by aboriginal people. The arborist report contained in the Nomination estimates the age of the tree to be 150 years (therefore started life in approximately 1862). It should be noted that as per the ESRR Stage 1 Archaeological Assessment and the Cultural Heritage Assessment, the project area was acquired from the Ojibway under the Robinson Treaty in early 1850, prior to the "birth of this tree". Thomas Burgess bought the land in as early as 1868 and proceeded to farm it. By 1872 the Musquosh Colonization Road ran over the falls. The North Bala Dam was constructed in 1874 (when the tree would have been still fairly young ~12 years old). Therefore, it is unlikely that aboriginal people would have created a trail marker at the foot of a waterfall in a location that was experiencing significant clearing and construction activities including the adjacent dam, road and nearby rail line. The question begs, why would a trail marker be needed in this location with all of this infrastructure in place? Some claim that it provides directional information i.e. it points in the direction of Georgian Bay. However, the water flow clearly provides the required information as to where the body of water that this river feeds into. A trail marker such as this would be more likely found upstream of a falls to tell a canoer where to take the boat out before getting into trouble over a falls, or along a portage to tell a canoer which direction to go to get back to the water - not at the base of a falls. SREL has publically stated that, if the community wishes, it will plant a new silver maple in the location of the current one at the completion of construction, and provide a memorial plaque providing details of the tree. If possible, it will also attempt to grow a tree from the clipping of the existing tree for future replanting in this location.
Economic Impact	An Economic Impact Assessment was prepared subsequent to the filing of Notice of Completion and was reviewed by both the MOE Director in March 2011 and the MOE Minister in May 2012. This assessment is still applicable based on the change(s) outlined in the Addendum.
Appearance, higher, more visible and closer to the falls	The powerhouse will be higher and more visible for the Alternative 1A plan than the Alternative 2D plan, as noted in the Addendum report. SREL attempted to mitigate this effect by burying the powerhouse and professionally landscaping

	above it, through its preferred Alternative 2D plan. However, without agreement from TML for the use of its land, this mitigation is no longer possible. SREL continues to be committed to working with an advisory committee on the final exterior design of the powerhouse and any landscaping. This is stated in the Executive Summary, and Sections 6.2.3 and 9.1 of the Addendum Report and was one of the MOE Director's conditions in her March 2011 decision that was reviewed by the MOE Minister in 2012.
Public access	Restrictions to public access are clearly outlined in the Addendum report Figures 5.4 and 6.4. The restricted areas during construction will be temporary and only used if required. While this does include a restriction to the area north of the North Falls, there is no mitigation to this given the small area of the site and limited open space. The restricted areas during operations are limited to the areas downstream of the upstream boom, upstream of the tailrace boom, and in the building. The proposed upstream boom location is the same as that in which MNR has proposed to move it to this year and for which it already has authorization from Transport Canada to do, for safety issues. This location is downstream of the proposed boom location shown in the 2009 ESRR, and therefore, represents a decrease in restricted areas from the information reviewed by the Minister in May 2012. The downstream boom restriction is similar in size to that presented in the ESRR and reviewed by the Minister in May 2012, however it has been moved by approximately 30 m north. Since the building cannot be buried in the Alternative 2D due to site constraints, there will be some further restrictions in public access with respect to the building footprint. However, SREL has stated in the Addendum that it will incorporate a roof top lookout platform, if possible, during detailed design to mitigate restrictions to public access along the south shore of the North Falls.
Memorial trees on Diver's point	There are currently 5 young memorial trees on Diver's point (trees that have been placed in honour of specific community members with adjacent memorial plaques). This area may be required for construction staging. It is unclear at this time if these trees will need to be removed/moved for the construction period. If necessary, SREL will remove the memorial plaques and trees for the duration of construction and protect them either on or off site. Otherwise, snow fencing will be used to protect trees from damage during the construction period. At the completion of construction they will be reinstated. If the trees do not survive transplanting, new saplings will be planted to replace the current ones. There is no change with respect to this situation from the original ESRR reviewed by the Minister in May 2012.
Consultation	
Currie's government consultation	Mr. Currie provides a list of stakeholders that he was concerned have not received the Addendum: • Transport Canada and NWPA – Document sent to Al Robertson and Jeremy Craigs

	• The Canadian Coast Guard – this is a branch of Transport Canada above. So above reference is applicable • DFO – sent to Kelly Eggers • Township of Muskoka Lakes – copy left at Township for public viewing, plus two hard copies and one digital copy sent to Walt Schmid • District of Muskoka – notice was sent to District. SREL discussed project with Tony White, Director of Public Works. Mr. White has confirmed he has reviewed document and has sent comments to SREL regarding required permits that will be required from the District. • Canadian Coast Guard – spills and pollution prevention – copy sent to Transport Canada • Ontario Ministry of Tourism, Culture and Sport – Notice was sent to the Ministry on July 13th. • Ontario Ministy of Labour – not sent as not generally included in EAs • Tourism Ontario – not sent to – Not sure if this is an actual entity • WSIB - EAs not generally sent to • Muskoka Watershed Council – sent notice to Judi Brouse • Muskoka Tourism – Not sent to • Muskoka Lakes Chamber of Commerce – copy left at office and notice sent to Bala office.
Consultation (Why MLA not MRPOA)	Consultation done with respect to the Addendum is outlined in Section 3 and Appendix C of the Addendum Report. This consultation record includes presentations of the Alterative 1 plan at various municipal council meetings that were open to the public, ads posted in local newspapers, presentations to community groups and aboriginal communities, and articles in local newspapers reporting on the change. Furthermore, drawings of the Alternative 1 plan was provided on the project website. Section B5.2 of the Guide indicates the following: "A Notice of Filing of Addendum shall be given to adjacent landowners and tenants and to all previously involved members of the public and review agencies, including the EA Coordinator at the appropriate Regional Office of the MOE. In the case of a modification to a project planned through the Environmental Screening Process, notice shall be given to all who were notified at the original Notice of Completion stage." SREL posted it Notice of Filing in the Bracebridge Examiner and the Gravenhurst Banner newpapers. Notice was also sent via the project Twitter (@BalaFallsHydro) account, posted on the project Facebook site (Bala Falls Small Hydro Project) and website (www.balafalls.ca) on May 30th. Copies of the notice were sent to over 400 stakeholders including all that were initially provided the Notice of Completion in 2009 and those that requested the project be elevated in 2009 and 2011. Therefore, the consultation efforts for this Addendum meet the requirements of the Guide. With respect to the question about why MLA consulted and not MRPOA – MLA requested these meetings and SREL obliged. No such meetings were requested by

	MRPOA.