



August 14, 2014

Ministry of Natural Resources
Parry Sound District
7 Bay Street
Parry Sound, ON
P2A 1S4
Sent via email: dan.duggan@ontario.ca

Attn: Mr. Dan Duggan, District Manager

Re: North Bala Falls Small Hydro Project – MRWMP Amendment Request

Dear Mr. Duggan:

Please accept this letter as a follow-up to our (SREL and MNR) previous discussions regarding Swift River's proposed MRWMP Amendment as outlined in our Environmental Screening Review/Report of October 2009 and subsequent ESRR Addendum Report of June 2011 and discussed at our three Public Flow Distribution Committee Meetings (attended by Mr. Steve Taylor or MNR) in October 2010.

As you are aware, Swift River has now reached the following milestones in the North Bala Small Hydro Project:

1. Successfully completed a Environmental Screening under the Ontario Environmental Assessment Act Regulation 116/01 (Oct 2009 and amended June 2011);
2. Issued Statement of Completion under the Ontario Environmental Assessment Act Regulation 116/01 (January 2013);
3. Received Location Approval from MNR under the Lakes and Rivers Improvement Act (LRIA) (July 2013);
4. Submitted our application for Plans and Specification to MNR under LRIA (April 2014) and have been working with MNR's Engineering Division to address all comments and concerns. We anticipate the final documents to be issued to MNR by the end of August for final approval and permitting.
5. Submitted legal surveys for a crown land lease for construction of the above named project under the Public Lands Act (April 2008 and revised August 2014).
6. Submitted our application for Permit to Take Water (PTTW) for construction of the project with MOE (June 2014) and anticipate receipt by the end of August or early September.

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Toronto, ON M4P 1E4

7. Received a Navigable Protection Program (NPP) permit for the construction and operation of the above named project from Transport Canada (June 2014).
8. Received notice from Department of Fisheries and Oceans that they “will not have any regulatory approvals to issue in respect of the ...project” (July 2012).
9. Met with MOE to discuss changes to the construction temporary and permanent works from the ESRR Amendment to those provided in the MNR, MOE and TC permit applications and received confirmation that no further amendments are required for the ESRR (June 2014).
10. Received Ontario Court of Appeal confirmation that the Township of Muskoka Lakes Judicial Review regarding a purported portage at the project site will not be considered any further (July 2014).
11. Received temporary and permanent road entrance permits for the project site and construction staging areas from the District Municipality of Muskoka along with a road occupation permit for the distribution line between the new facility and the Hydro One grid (June 2014).
12. Executed a Connection Cost Agreement and Connection Impact Assessment with Hydro One for the connection of the facility to the Hydro One distribution grid (April 2011).
13. Executed a Feed-in Tariff Contract with Ontario Power Authority for the purchase of electricity from the above named project (April 2010).

It is understood that the current WMP process does not require approval of the WMP amendment until just prior to commercial operations of the facility. However, it has come to our attention that MNR are considering a competing WMP amendment proposal from the existing Burgess G.S. facility even though that facility never filed an objection for the North Bala Small Hydro Project during the EA process. It is SREL's opinion that a competing application from such a water user should have been submitted at that time or at the very least an intention to do so. At this stage in our project development process, Burgess' amendment application should be given second priority and must be assessed to take into consideration the flows and levels that our project has proposed over the last 7 years of its development.

Given this competing interest for the water at this site, and the current advanced stage at which the project is in, Swift River would respectively like to move forward with the formal approval of our proposed MRWMP Amendment as proposed in the ESRR and ESRR Amendment and not wait until after construction. It is requested that the process moving forward would follow along the following proposed timetable (please let us know if this timetable is reasonable):

1. Receipt of approval from MNR for the proposed flows and levels to be included in the MRWMP Amendment as outlined in this package (by September 5, 2014);
2. Wrap-up meeting of the Public Flow Distribution Committee by presenting the proposed flows and levels outlined below (by September 19, 2014); and
3. Submission and MNR approval of MRWMP Amendment Request package. (submission by September 30, 2014 and approval by October 31, 2014)

Ministry of Natural Resources
MRWMP Amendment Request
August 15, 2014

We have attached a Proposed Operating Plan Summary for your review and comment prior to presenting at our wrap-up meeting with the Public Flow Distribution Committee (date to be confirmed). We would also appreciate an outline of what further information you would require for our final MRWMP Amendment Request package.

Please do not hesitate to contact me at 905-331-9692 or kmcghee@m-k-e.ca if you wish to discuss further. Please note that I will be out of the office the week of August 18th returning on August 25th.

Best Regards,
Swift River Energy Limited, as general partner of Swift River LP

A handwritten signature in black ink, appearing to read 'K. McGhee', written in a cursive style.

Karen McGhee, P.Eng.
North Bala Small Hydro Project Manager
KSM:km

c.c. Steve Taylor, MNR, IRM Technical Specialist

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1.0 OPERATING PLAN FOR NORTH BALA G.S.

1.1 Water Levels

The proposed North Bala Small Hydro Project facility will operate within the existing approved Lake Muskoka operating plan as is presently outlined in the MRWMP. This means that the plant will be operated to maintain its headwater (Lake Muskoka) at the TOLs in the MRWMP, with the NOZ being adopted as the plant compliance levels. An operational band around the TOL is proposed, which for the purposes of the plan, will be referred to as the Best Management Zone (BMZ) band. The BMZ zone will be entirely within the NOZ which presently exists in the MRWMP. Figure 9.3 (from ESRR) depicts the operating plan with the proposed BMZ band. Between January 1 and May 1, there will be no BMZ around the TOL. Lake Muskoka will be drawn down to a level of 224.90 m on or before March 25 in order to provide adequate storage for the spring freshet. MNR may instruct SREL to achieve the drawdown level by a date earlier than March 25 and/or lower the lake further in order to prepare for the freshet and associated flood mitigation. This decision by MNR will depend on snow pack conditions, water content and other flood forecasting indicators and objectives.

From May 1 to May 31, a BMZ of up to 5 cm below the TOL will be applied for flood risk reduction. From June 1 to July 31, a ± 2 cm BMZ around the TOL (i.e. up to 2 cm above or 2 cm below the TOL) will be applied. From August 1 to September 15, the BMZ will be from 4 cm above the TOL to 2 cm below the TOL. From September 16 to October 15, the BMZ will extend to 5 cm above the TOL. The descending slope of this band will merge with the TOL on or around October 20. MNR may instruct SREL to alter the timing and duration of the fall drawdown based on the progress of the lake trout spawning period. From on or about October 20 to December 31, a BMZ band up to 6 cm below the TOL will apply.

1.1.1 *Lake Muskoka Operating Strategy*

The existing Lake Muskoka operating strategy in the approved MRWMP will be adopted by the proposed facility. It is currently implemented through operation of the Bala North and South Dams. The new hydroelectric facility will be included in the implementation of the operating strategy.

The seasonal changes in the TOLs for Lake Muskoka as required by the approved MRWMP are summarized in Table 2. The plant will adopt the existing TOL as its operating TOL, with a BMZ band, complying with the water level direction changes as described in the MRWMP.

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Table 1
North Bala G.S. - Lake Muskoka – Seasonal TOLs

Component	Operating Characteristics	MRWMP Values	Seasonal Period	North Bala G.S. Operating Plan
Spring Water Level (freshet to May 30)	Upper NOZ (m)	225.75	Jan 1 to Apr 31	No BMZ during this time period (TOL to be adhered to)
	Lower NOZ (m)	224.6-225.28		
	TOL (m)	225.6-225.48		
	Peak Date	May 1	May 1 to May 31	BMZ band = TOL – 5 cm BMZ band width = 5 cm
	TOL Change	0.12		
	WL* Change	Down		
Summer Water Level (Jun 1 to Sep 15)	Upper NOZ (m)	225.75-225.52	Jun 1 to Jul 31	BMZ band = TOL ±2 cm BMZ band width = 4 cm
	Lower NOZ (m)	225.28	Aug 1 to Sep 15	BMZ band = TOL + 4 cm / -2 cm BMZ band width = 6 cm
	TOL (m)	225.48-225.35		
	TOL Change	0.13		
	WL Change	Down		
	Fall Water Level (Sep 16 to Nov 30)	Upper NOZ (m)	225.52-225.61	Sep 16 to Oct 15
Lower NOZ (m)		225.28-225.12		
TOL (m)		225.35-225.25	Oct 20 to Dec 31	BMZ band = -6 cm BMZ band width = 6 cm
TOL Change		0.1		
WL Change		Down, then natural rise to 225.52 by Dec 1		
Winter Water Level (Dec 1 to	Upper NOZ (m)	225.61-225.1	Jan 1 – Mar 15	No BMZ during this time period (TOL to be

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Mar 15)	Lower NOZ (m)	225.12-224.6		adhered to)
	TOL (m)	225.52-224.9		
	TOL Change	0.62		
	WL Change	Down		
*Water Level				

1.1.2 Bala Reach Operating Strategy

Bala Reach water levels are presently managed by flow releases at the North and South Bala Dams in coordination with discharges at OPG-owned Ragged Rapids Generation Station and the Moon Dam. OPG's operations at these dams are normally directed by the compliance limits for water levels within Bala Reach. The operating plan for these OPG facilities is presented in the MRWMP. The North Bala Generating Station will be required to pass flows which do not inhibit OPG's ability to remain in compliance at Bala Reach, while at the same time having no negative impact on OPG's generation. This can be achieved only through coordination with OPG. It is therefore proposed that as part of the operations there be an agreed method of effective communication between the operators of the North Bala G.S. and OPG Ragged Rapids G.S.

The Bala Reach operating strategy as provided in the MRWMP will be adopted by the proposed facility.

1.2 Plant Flows, Bypass Flows and Other Concessions

The WMP for Lake Muskoka and Bala Reach requires a minimum daily average flow of 6 m³/s to be passed through the three Lake Muskoka control facilities (Burgess Generating Station, North Bala Dam, and South Bala Dam). Generally 4 m³/s is allocated to the Burgess Generating Station for power generation and, a minimum daily average of 2 m³/s is assumed to pass through the North Bala and South Bala dams, split equally between the two structures. For the purposes of improving fish habitat, maintenance of water quality, and channel aesthetics, flow through the North and South channels and Burgess G.S. will be as outlined in Tables 2 and 3. Table 2 provides a summary of minimal bypass flows that will be provided on a continuous basis if in-flows to Lake Muskoka are greater than 6 m³/s. If in-flows are less than 6.0 m³/s flows to Burgess G.S. will be reduced as per the Burgess G.S. operating plan. SREL proposes to further provide "concession flows" in addition to the minimum flows provided in Table 2, over the North and South Bala Dams during times of public use/interest. Table 3 provides a summary of both the minimum flows as outlined in Table 2 and additional concession flows to improve aesthetics at the facility. Flow through the Bala dams is assumed to occur either via leakage or through log manipulation.

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Table 2
Minimum Bypass Flow

Period	Minimum Bypass Flow (m ³ /s)			
	North Bala Dam	South Bala Dam	Burgess G.S.	Total
Jan 1-Apr 14	1.0	1.0	4.0	6.0
Walleye Spawning (approx. Apr 15-Apr 30)	9.5	1.0	4.0	14.5
Walleye egg incubation (approx. May 1-May 14)	2.0	1.0	4.0	7.0
May 15-Jun 30	1.0	1.0	4.0	6.0
Jul 1-Labour Day (approx. Sep 7)	1.0	2.0	4.0	7.0
Sep 8 (approx.)-Dec 31	1.0	1.0	4.0	6.0

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Table 3
Minimum and Concession Flows During High Use Periods
 Concession Flows to be provided only when in-flows are available i.e. >26 m³/s
 (Concession Flows will **not** be provided when facility is in cycling mode of operation)

Period	North Bala Dam		South Bala Dam		Burgess G.S.	Total
	Min Flow	Add'l Flow *	Min Flow	Add'l Flow *	Min Flow Only	
Victoria Day Weekend*	1.0	3.0	1.0	3.0	4.0	12.0
Canada Day & Weekend Associated with Holiday**	1.0	1.0	2.0	2.0	4.0	10.0
Simcoe Day (August Civic Holiday) Weekend*	1.0	1.0	2.0	2.0	4.0	10.0
Labour Day Weekend*	1.0	1.0	2.0	2.0	4.0	10.0
Thanksgiving Weekend*	1.0	3.0	1.0	3.0	4.0	12.0
Bala Cranberry Festival Weekend*	1.0	3.0	1.0	3.0	4.0	12.0

*Long Weekend flows will be provided from Friday at 7:00 p.m. to holiday Monday at 7:00 p.m.

**For Canada Day and the associated weekend, the above flows will be provided for Canada from 7:00 a.m. to 7:00 p.m. plus either the weekend before or after Canada Day from 7:00 p.m. Friday to 7:00 p.m. Sunday.

Flows in excess of the minimum turbine flow of 19.2 m³/s (note this is an increase from that provided in ESRR to reflect actual equipment specifications) will pass through the plant up to the maximum plant flow of 96 m³/s. Due to the considerable storage provided by Lake Muskoka it is anticipated that there will be some amount of generation every day.

Normally for periods not including the walleye spawning period, inflows to Lake Muskoka in excess of 102 m³/s (Plant rated flow plus minimum bypass flows as per Table 2) will be passed through the North and South dams, with preference being given to the South Dam until such time as the South

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Dam's spilling capacity is exceeded. Lake Muskoka levels will thereby be maintained within the NOZ. When inflows are below 102 m³/s, corresponding lower flows will be passed through the plant. During the spawning period (typically late April) and subsequent incubation period (typically early May), adequate flows will be passed over the North Bala Dam to allow continued use of existing spawning areas downstream of the North Bala Falls rapids as noted in Table 2 and determined through dialogue with the DFO and MNR.

As is the case presently, flows to Burgess Generating Station will be limited under instructions from MNR when there is insufficient water to allow for its operation (typically when both dams are closed and water levels are falling below the NOZ). As flows from Lake Muskoka increase, it is proposed that the flows be sequentially allocated to Burgess Generating Station (up to 4 m³/s), then to the North Bala Hydro facility, up to its maximum capacity of 96 m³/s. This assumes the remaining flow (minimum 2 m³/s) will be passing via leakage or through log manipulations at the North and South Bala Dams (as shown in Table 1). Flows above 102 m³/s will be allocated to the North and South Dams with preference given to the South Dam. Under declining flows, the priorities would be reversed.

1.3 Operating Plan for North Bala G.S.

1.3.1 Operating Conditions from MOE

The following is a list of operational conditions placed on the North Bala G.S. by the MOE Director to be implemented by SREL:

1. The facility will be operated as a run-of-river facility incorporating a flow plan developed weekly in consultation with MNR and OPG based on conditions for each week. The facility will initially be run flat under normal flow conditions (i.e. no load cycling of the unit throughout the day except as noted in item 3). The intent of this condition is to simulate the status quo.
2. Lake Muskoka will not be used as storage with respect to the operating regime of the facility.
3. When inflow at the facility is less than 26 m³/s (the minimum operating capacity of the downstream Ragged Rapids G.S.), the facility will cycle such that its operating discharge will be 26 m³/s or more. Compliance with the WMP and public safety will continue to be ensured. During summer months, this discharge is to be timed in order to provide adequate navigable water conditions for Go Home Lake on Friday and Sunday evenings. This requirement will be included in the weekly plan.

4. To ensure no impacts to OPG compliance under the MRWMP with respect to the walleye spawning period, ranging from approximately April 15 to June 1 of any year, during such period, the facility will be operated with no cycling of the units (i.e. run flat).
5. SREL will enter into a communications protocol to ensure effective communication is carried out.

1.3.2 Operational Characteristics

The facility will be run as a run-of-river facility based on a weekly operation plan developed in cooperation with MNR and OPG. The estimated plant capacity is 96 m³/s with an operational head of approximately 6.3 m. However, if river in-flows fall below 26 m³/s between June 1 and April 15, the facility will be cycled on and off such that:

1. The facility will release a planned daily release from Lake Muskoka (according to the weekly plan).
2. A flow of 4 m³/s will be provided to Burgess G.S. This will be a continuous flow unless river flows are less than 6 m³/s, in which case flows will be reduced to Burgess G.S. as per its operating plan.
3. A continuous flow of 1 m³/s will be released through each of the North and South Bala Dams.
4. The daily water used for production will be such that:
 - a. Plant flow = 20 to 30 m³/s {the upper end is constrained by safety considerations, therefore, upstream and downstream velocities will be measured in-situ after commissioning of the facility to confirm these values prior to commercial operations}
 - b. Maximum net change in water level of Lake Muskoka during cycling is 2 cm.
5. Once the planned daily release from Lake Muskoka is reached, operation of the facility will temporarily cease, to allow water levels of Lake Muskoka to rise back up to the original level.
6. The facility will be cycled a maximum of once per day. The duration of the facility runtime will vary based on inflow to Lake Muskoka.
7. With adequate coordination of operations with OPG, no significant change is anticipated in the downstream Moon River during the above cycling mode of operation.

1.4 Compliance Considerations

The NOZ for Lake Muskoka, as identified in the existing MRWMP will become the legal operating range (compliance zone) for the proposed North Bala G.S. SREL will be out of compliance if it operates outside of the NOZ, with the exception during extreme high and low water events as described in Section 13.3 of the MRWMP and summarized below.

A *Low Water Indicator* will occur when the North Bala G.S. and the North and South Bala Dams have been operated to provide the minimum flow of $6 \text{ m}^3/\text{s}$ (i.e. both the dams and powerhouse have been shut down) and the water level of Lake Muskoka falls below the NOZ. If this situation occurs, SREL will not be out of compliance with the MRWMP. MNR reserves the right to instruct SREL to reduce Bala flows to the minimum when Lake Muskoka levels fall toward the lower portion of the NOZ. This will involve first shutting down the North Bala G.S., followed by shutting down Burgess G.S. and placing all stop logs in the North and South Bala Dams.

The *High Water Indicator* takes into consideration the recognized downstream flood constraints within the Bala Reach, allowing SREL to maintain the level of Lake Muskoka above the NOZ under certain high flow circumstances. For example, as Lake Muskoka levels, or rate of rise, begin to significantly increase above the BMZ and toward the upper portion of the NOZ, efforts will be made to prevent flows into the Bala Reach from surpassing $200 \text{ m}^3/\text{s}$, (which corresponds to bank full flows and the point where high water concerns commence), while addressing Lake Muskoka level objectives. If Lake Muskoka levels are expected to rise above the NOZ due to high inflow conditions, the discharge into the Bala Reach can be increased to $280 \text{ m}^3/\text{s}$.

Under watershed-wide flood conditions, flow discharge into the Bala Reach may surpass $280 \text{ m}^3/\text{s}$ in order to equitably balance the negative effects of flooding in Lake Muskoka and the Bala Reach/Moon River.

As per the Compliance Monitoring and Reporting Section of the MRWMP, SREL will be required to submit an Event Report whenever Lake Muskoka water levels rise above, or fall below the NOZ. Under the High Water Indicator and Low Water Indicator situations described above, SREL will not be out of compliance with the MRWMP.

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APPENDIX A: FIGURES FROM ESRR

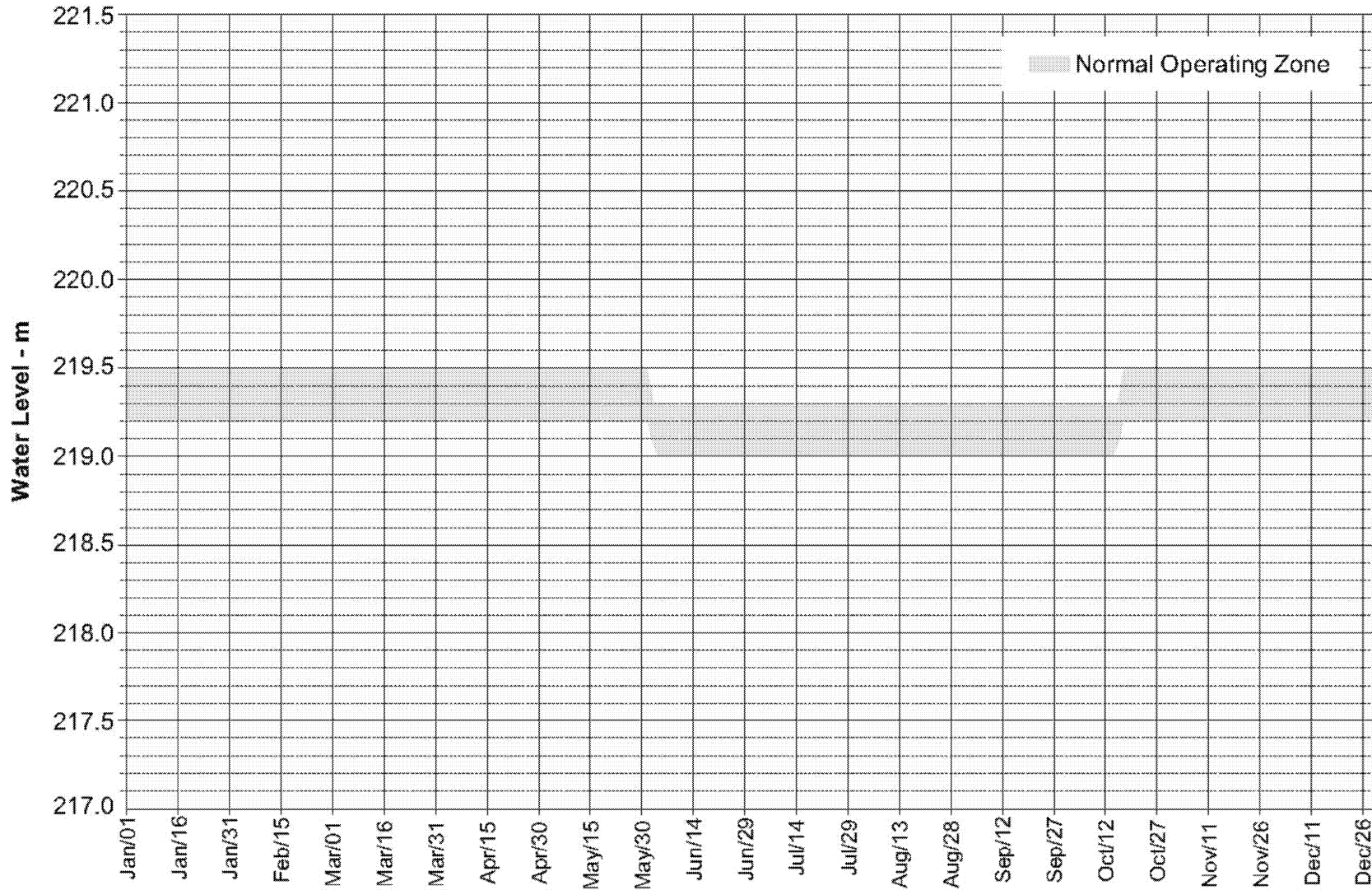


Figure 9.2
Swift River Energy Ltd.
North Bala Small Hydro Project
Existing and Proposed Bala Reach, Ragged Rapids and Moon Dam Operating Plan



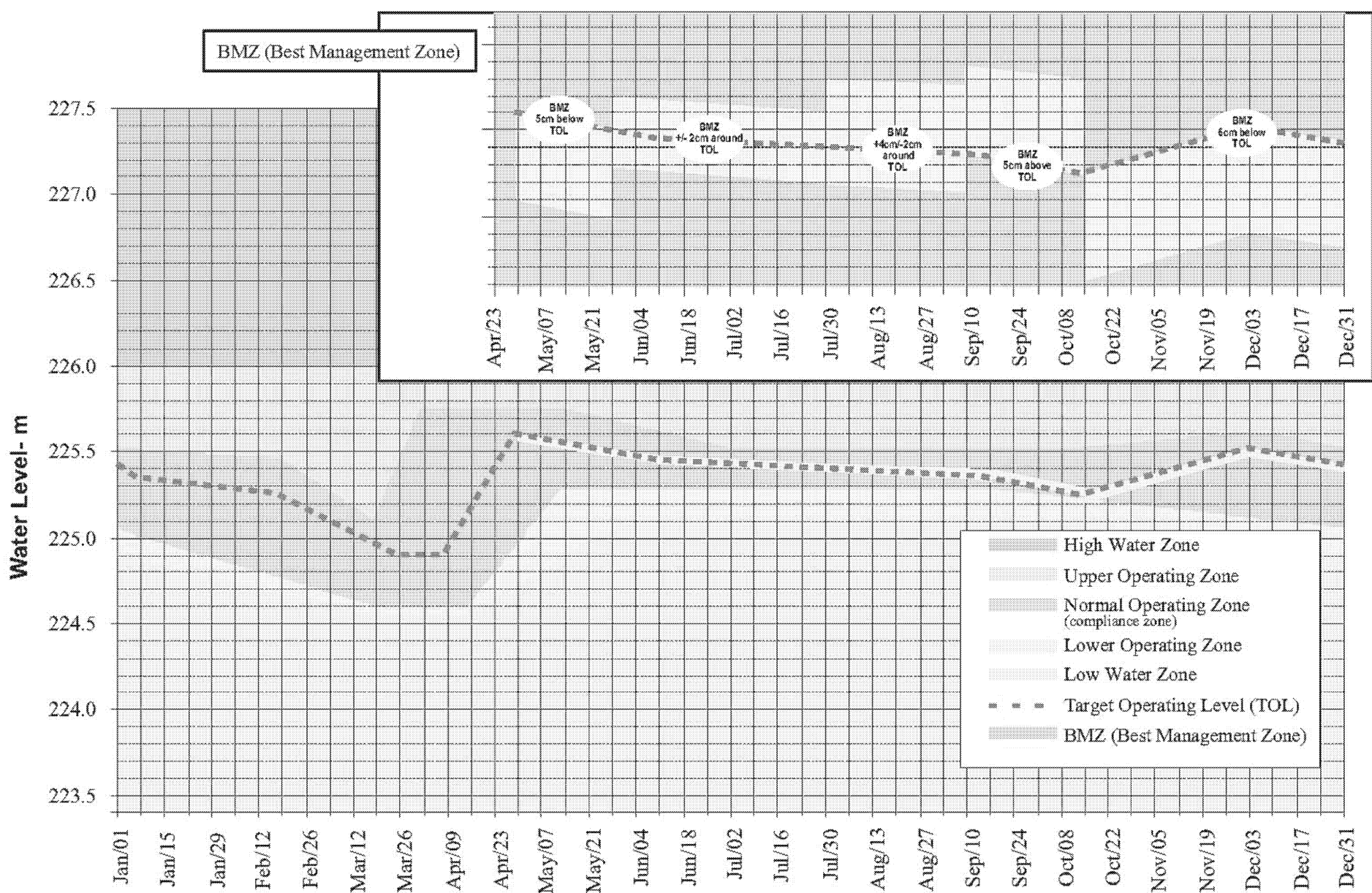


Figure 9.3

Swift River Energy Ltd.

North Bala Small Hydro Project

Proposed Operating Plan for Lake Muskoka

