

## **13 Compliance Monitoring Plan**

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The Compliance Monitoring Plan defines the parameters (levels and/or flows) that will be monitored to determine whether the waterpower facility is within the established operating range (see Section 12 for facility operating plans and operating zones), identifies exceptional operating circumstances, establishes the reporting procedures and format, and establishes the format for data reports. While it is recognized that MNR may audit waterpower facility operations at any time to verify compliance, the procedures contained herein pertain to self-reporting by waterpower industry facilities to meet the requirements of the Muskoka River Water Management Plan.

### 13.1 Compliance Definitions

Twenty-four hour daily average data elevations will be the basis of all compliance and enforcement auditing, monitoring, inspections and reporting. Average daily water levels that are outside the 'NOZ' will be reported under all circumstances. Reporting procedures are described in Sections 13.3 and 13.4.

Flows arriving at waterpower facility dams are typically the result of operation of upstream MNR controlled dams, and are not under the control of waterpower operators. No compliance limits for river flow are established at waterpower facilities outside the spring walleye spawning period.

During the spring walleye spawning period (as determined by MNR<sup>\*</sup>) hourly flow data will be recorded and reported at Matthias Generating Station and South Falls spillway channel. Hourly flows that are less than the values noted below will be considered to be out of compliance, unless the flow from the upstream MNR-controlled dam is below the noted minimum value. In the event that the flow at Baysville Dam falls below 5 m<sup>3</sup>/s, the South Branch facilities will endeavor to maintain a minimum consistent flow of 3 m<sup>3</sup>/s at the walleye spawning site at South Falls during the walleye spawning period until such time as reservoir water levels reach the lower limit of the NOZ.

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\* Approximately the third week of April to June 1 annually.

	<b>Mathias/South Falls*</b>	<b>Baysville Dam</b>
Minimum flow	3 m <sup>3</sup> /s	5 m <sup>3</sup> /s

Flow for the Moon Falls walleye spawning site is provided through the Moon Dam, which is operated by OPG. During the walleye spawning period (as determined by MNR), a flow of 14 m<sup>3</sup>/s will be provided as a BMP. OPG and MNR will cooperate and coordinate operation of their respective dams (Moon dam and Bala dams, respectively) to achieve the proposed daily flow value. Amendment to flow management for the Moon River are expected as new information becomes available (see Section 15), through an adaptive management process.

### **13.2 Exceptional Operating Circumstances**

The proponents of the Muskoka River Water Management Plan recognize that there may be exceptional circumstances which can affect the ability of each partner to maintain flows and water levels within the prescribed ranges as noted in Section 12 of this document. Natural, anthropogenic and mechanically induced occurrences may result in levels or flows outside the normal operating range. Reporting of these “out of range” occurrences will take place as noted in Section 13.2.1.

1. Significant rain or drought events which exceed the high or low water triggers established for each facility (as identified in Section 12). Reporting of high and low water triggers shall be undertaken at the beginning and end of each event.
2. Large scale operation of an upstream MNR dam during a high flow period may cause an exceedance of a waterpower facility’s high water trigger. Such events will be reported immediately to the local MNR office (Senior Water Control Technologist or alternate).
3. An Independent Electricity System Operator (IESO) or provincially declared energy emergency. If requested to respond to such an emergency, MNR and waterpower operators would work together to optimize power output from the river system. Waterpower facility operations outside the NOZ would be reported as per Section 13.4.1.

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\* South Falls minimum flow provided through the spillway channel.

4. Failure of generating station monitoring, mechanical equipment, or structures may result in the facility going outside its NOZ. Such events will be reported immediately to the local MNR office (Senior Water Control Technologist or alternate) and to the central WMP 'reporting line' as noted in Section 13.4.1.
5. Icing of physical structures and monitoring equipment may result in the loss of operational/monitoring capability with that equipment. Such events will be reported immediately to the local MNR office (Senior Water Control Technologist or alternate) and to the central WMP 'reporting line' as noted in Section 13.4.1. MNR will be notified of the expected return to service time/date.
6. An electrical distribution system outage may cause generating plants to be isolated from the distribution network, and need to be shut down. Under these conditions, head-pond levels may rise temporarily until flow can be diverted through spillways or bypass channels. Such events will be reported immediately to the local MNR office (Senior Water Control Technologist or alternate) and to the central WMP 'reporting line' as noted in Section 13.4.1.
7. Short-term flow or water level changes resulting from dam safety tests (i.e., to ensure that stop logs can be removed to pass high flow events). Such events will be reported immediately to the local MNR office (Senior Water Control Technologist or alternate) and to the central WMP 'reporting line' as noted in Section 13.4.1.

### **13.2.1 Reporting During Exceptional Operating Circumstances**

1. Reporting during exceptional operating circumstances will be via telephone to the Senior Water Control Technologist at the MNR Bracebridge Area office immediately upon verification of an out of range event.
2. Subsequent reporting will be as per Section 13.4.1.

### **13.3 Deviations from Mandatory Compliance with Natural Variations in Water Supplies**

MNR recognizes that weather conditions and their impacts on water supplies are a source of ongoing uncertainty in managing water power facilities and other control structures.

Operators will **not** be considered to be out of compliance with their WMP when they operate outside the specified operating range as a result of a high or low water conditions as defined below.

### **Low Water Indicator**

Facilities with minimum downstream flow and minimum reservoir/head-pond water level requirements are in a low water condition when all of the following conditions are met:

- outflow from the facility is at or below the minimum flow targeted in each branch
- water level in the head pond/reservoir is at or below the minimum water level stipulated in the WMP, and
- the head pond/reservoir water level is decreasing.

Facilities with no minimum downstream flow requirements but having a minimum reservoir/head-pond water level are in a low water condition when all of the following conditions are met:

- outflow from the facility is at the minimum possible
- the head pond/reservoir water level continues to decrease.

### **High Water Indicator**

High water conditions exist at a facility when all the following conditions are met:

- water level in the head pond/reservoir is at or above the maximum water level stipulated in the approved WMP, and
- head pond/reservoir water level is increasing, and
- discharge facilities have been operated to discharge the maximum discharge possible (while minimizing upstream and downstream flood damages).

In instances where waterpower operators report that they can no longer operate within the approved operating range because a low or high water indicator has been met, they will

- immediately advise MNR and file an event report
- comply with any conditions/components contained in the WMP related to these circumstances.

MNR requires owners of facilities that have mandatory water flow and level requirements to convene the Standing Advisory Committee (SAC) to assess options once a low water indicator has been met. Assessments will consider the circumstances of the situation against the priorities that were set during the planning process and will make recommendations accordingly. SAC's do not have a regulatory role. The role is to provide advice during low water conditions where operations are outside of the approved plan (MNR, 2002).

MNR requires that an official record be maintained of all recommendations made by the SAC to the operator and copied to MNR.

Once a high or low water trigger has been met, the Plan will permit the owner/operator to deviate outside the operating range while continuing to meet any other requirements of the Plan until the condition described by the trigger ends (i.e., as long as the conditions applies, operations outside of the approved operating range will be in compliance with the Plan).

MNR may request appropriate existing data and information to confirm or assess the high or low water conditions, or may independently verify the situation. MNR has indicated that reports generated as a result of such a review will not constitute non-compliance reports unless the owner/operator is found to be deliberately or negligently operating outside the approved operating range.

## **13.4 Reporting Procedures and Format**

### **13.4.1 Event Reporting Format**

Events outside the NOZ shall be reported by telephone to the Bracebridge Area office or other location as per MNR direction within 24 hours of the time that industry is aware of the event. The telephone message will, to the extent that the information is available, explain Items 1 to 5 below and an event report will be faxed to the Bracebridge Area Office within 30 days of the

occurrence. Each report will be dated and signed by the waterpower operator (see Event Report form located at end of section).

1. Nature of Non-Compliance: (e.g., water level out of range and amount)
2. Why it happened: (e.g., power outage, generator not able to operate, power dam not functioning, etc)
3. What is being done to correct it: (e.g., dam operated manually)
4. How long before return to compliance: (e.g., 24 hours, already back in compliance).
5. Corrective actions that are required (if any).

#### **13.4.2 Data Recording and Reporting**

Specific waterpower facilities shall record and report the following data to MNR. The actual readings (raw data) used to determine the average water levels will be recorded and retained by all waterpower facilities, and will include measurements taken every hour, on the hour (i.e., 0600 hours., 0700 hours, etc).

<b>Facility</b>	<b>Data Required</b>	<b>Data Collection Responsibility</b>	<b>Reporting Period</b>	<b>Gauge(s) Location and Operation</b>
High Falls GS	Daily average water level (m) Flows (m <sup>3</sup> /s) as per seasonal Flow Distribution Plan when second unit is operational	BGL	Annually by Jan 31	Head pond Electronic and manual
Wilson Falls GS	Daily average water level (m)	BGL	Annually by Jan 31	Head pond Electronic and manual
Bird's Mill	Daily average water level (m) (voluntary reporting)	DMOM	Annually by Jan 31	Head pond Manual
Bracebridge Falls GS	Daily average water level (m)	BGL	Annually by Jan 31	Head pond Electronic and manual
Matthias GS	Daily average water level (m)  Hourly flows (m <sup>3</sup> /s) during walleye spawning period (dates vary by temperature, and will be provided by MNR)	OPC	Annually By Jan 31 July 1 annually	Head pond Electronic and manual
Trethewey Falls (GS)	Daily average water level (m)	OPG	Annually by Jan 31	Head pond Electronic and manual
Hanna Chute GS	Daily average water level (m)	OPG	Annually by Jan 31	Head pond Electronic and manual

Facility	Data Required	Data Collection Responsibility	Reporting Period	Gauge(s) Location and Operation
South Falls GS	Daily average water level (m)  Hourly flows (m <sup>3</sup> /s) during walleye spawning (dates vary by temperature, and will be provided by MNR)	OPG	Annually by Jan 31 July 1 annually	Head pond Electronic and manual
Burgess GS	Daily average flows (m <sup>3</sup> /s)  Plant outage to be immediately reported to MNR and OPG. Shut down order from MNR to be implemented within 24 hrs of notification.	AP	Annually by Jan 31	Calculated from electrical power output
Ragged Rapids GS	Daily average water level in Bala Reach (m)	OPG	Annually by Jan 31	Head pond Electronic and manual
Moon River Dam (Dam structure)	Daily average flows (m <sup>3</sup> /s) during walleye spawning (dates vary by temperature, and will be provided by MNR)	OPG	Annually by Jan 31	Same as Ragged Rapids
Big Eddy	Daily average water level (m)	OPG	Annually by Jan 31	Head pond Electronic and manual

Water level data will be recorded at predetermined locations at each facility as noted above. Gauge location information is provided in Appendix G.

### 13.4.3 Data Reporting Format

The following reporting format will be used.

1. Recording Formats:

a. **Flow Data:** Hourly (during walleye spawning period at designated facilities) - date, hour, hourly flow value.

Daily

- High Falls (as per Flow Distribution Plan, when second unit in operation)
- Burgess.

b. **Water Level Data:** Daily – date, average daily water level (average of 24 hourly values)

2. Data Reporting – Data to be archived for a period of 5 years. Any data collected near the end of the WMP term must be retained for 5 years from the day it is collected.
3. Data will be provided electronically as Comma Separated Variable (CSV) format, Microsoft Excel Version 97 or above, or equivalent. If agreed by both parties, electronic data can be sent via e-mail.

#### 13.4.4 Data Reporting Exceptions

It is acknowledged that at times mechanical failure may cause data to be unavailable for specific time intervals. Industry will notify MNR the next business day of any mechanical failures to monitoring equipment. Under these conditions, manual readings will be taken as possible, and will be recorded and reported. MNR shall understand that the water levels and flows may be out of compliance until such time that the mechanical failure is identified and rectified. Industry shall make all reasonable efforts to make the required repairs in a timely manner, and will inform MNR when equipment is operational.

#### 13.5 Reporting by MNR

MNR will notify waterpower industry operators of all dam operations that change flow within the downstream reach below Port Sydney (Mary Lake), Baysville (Lake of Bays) and Bala (Lake Muskoka) dams. Industry will be notified of the change by means of a telephone call to their respective operational centres. Under

unusual circumstances (i.e., a flow change that exceeds the high or low water triggers), the call will also provide immediate notification and provide the opportunity to develop joint strategies to deal with the situation. MNR will advise industry of any loss of active gauging capability (i.e., Mary Lake and Baysville).

Flows in excess of the high or low water trigger values shall be reported to the central WMP 'reporting line' by MNR Bracebridge Area Office.

### Event Report (Jan 31, 2005) Muskoka River Water Management Plan

Tracking No.: \_\_\_\_\_

Date of Observed Event: \_\_\_\_\_ Time of Observed Event: \_\_\_\_\_

Reported to MNR by Phone to:  Bracebridge Area Office  Provincial Coordination Centre

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Recorded 24-Hour Average Water Level (m) \_\_\_\_\_

Recorded Hourly Average Water Flow for Walleye (m<sup>3</sup>/s) \_\_\_\_\_

**Nature of Incident:**

- Low Water Trigger Met *Start Date/Time* \_\_\_\_\_ *End Date/Time* \_\_\_\_\_
- High Water Trigger Met *Start Date/Time* \_\_\_\_\_ *End Date/Time* \_\_\_\_\_
- Equipment Failure \_\_\_\_\_
- ISO Request and Approval by MNR *Contact Person:* \_\_\_\_\_
- Emergency \_\_\_\_\_
- Upstream Dam Operations *Upstream Dam:* \_\_\_\_\_
- Facility or Dam Maintenance \_\_\_\_\_
- Other \_\_\_\_\_

Is corrective action required to bring the operation back into Plan? Please describe:

\_\_\_\_\_  
\_\_\_\_\_

How long will it be before the operation is expected to be back into Plan?

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Owner/Operator (Signature)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name (Print)

additional information attached

Facility Codes:

Matthias MF  
Hanna Chute HC  
High Falls HF  
Bracebridge BF

Trethewey TR  
South Falls SF  
Bird's Mill BM  
Wilson Falls WF

Burgess BUR  
Big Eddy BE  
Ragged Rapids RR  
Moon River Dam MR