

Appendix B2

OPERATIONS PERFORMANCE REQUIREMENTS

The Operator will be responsible for the overall operation, repair and maintenance of the Project constructed in a manner that is in compliance with the requirements of the Project Agreement, this RFP and the RFP Documents, and that maintains the utility of the assets. The services during the operating phase include the following, as well as any services that are not listed but are required to sustain a fully functional facility.

This Appendix is in DRAFT form and will remain in DRAFT form until negotiations with the Preferred Proponent are complete.

1.0 Measurement Requirements

In addition to activities that the Operator must perform to satisfy obligations under other sections of this RFP, the Operator is required to provide the following sampling and analytical services. All analyses are to be performed in accordance with the protocols and procedures specified in the Discharge Criteria (Appendix C).

1.1 *Measurement of Volumes*

The measurement of the volumes of water treated, and basis for payment, will be at the point where the treated water exits the WTP, before the addition of Contaminated Water and storm water that is by-passing the WTP. In addition, the Operator is required to measure the volumes of water at the following locations:

- Volume discharging from the 4100 Level Plug.
- Volume by-passing the WTP.
- Volume pumped to the WTP from the groundwater collection system, which may include surface runoff.
- Volume of storm water pumped directly to the outfall system.

All of the above measurements are to be continuous and recorded electronically using the SCADA system.

1.2 *Measurement of Physical and Chemical Parameters*

NOTE: The following is a provisional listing of sampling and analytical requirements that will be finalized once the Operator is selected. These requirements are the minimum required by the Province. The Operator may require more frequent sampling and analysis for process control.

Water is to be sampled and analyzed as follows:

1.2.1 **Mine water exiting the Workings.**

- i. Continuous – pH
- ii. Weekly – quantitative analysis for total and dissolved metals in accordance with the analytical protocol required in the discharge permit, and TSS.

1.2.2 Groundwater pumped to the WTP

- i. Continuous – pH and conductivity
- ii. Weekly – quantitative analysis for total and dissolved metals in accordance with the analytical protocol required in the discharge permit, and TSS.

1.2.3 Storm water pumped to the outfall system

- i. Monthly – pH, quantitative analysis for total and dissolved metals in accordance with the analytical protocol required in the discharge permit and TSS.

1.2.4 WTP effluent

- i. Continuous – pH, turbidity.
- ii. 24 hour daily composite – semi-quantitative analysis for copper and zinc.
- iii. Weekly composite – quantitative analysis for total and dissolved metals in accordance with the analytical protocol required in the discharge permit.

The Operator is to establish the relationship between turbidity measurements and total suspended solids for reporting purposes.

Analysis for each measured parameter should include at least the following:

- i. Averaged parameter amount each Day (weighted average by volume of water).
- ii. Daily minimums and maximums of each parameter are to be identified.
- iii. Out-of-range events (identifying number of events each Day, cumulative amount of water for each incident, water chemistry characteristics).

Analysis for additional parameters specific to the process may be added.

The frequency of analysis will be reduced if the Operator can demonstrate that the plant can operate reliably under varying conditions. If the semi-quantitative analysis indicates that the metal content exceeds the *Waste Management Act* Discharge Permit PE-17469 (currently in draft form) as summarized in Appendix C, samples will be required to be sent for quantitative analysis until the cause is identified and resolved.

1.3 Online Results

Operator shall make above measurements available in real time through online systems available over world wide web (password protected). A database of historical results shall also be available online.

2.0 Operations and Monitoring Performance

Operator is responsible for satisfying Operations Performance Requirements (as described in Table B2-1 below) and self-monitoring performance. Failure to monitor and report performance to Province Representative as described may have material consequences (depending upon the item not monitored or reported). Operator is also responsible for all other required reporting under the Permits.

2.1 Operations Performance Requirements

Operator will be responsible for the overall operation, repair and maintenance of the Project constructed in a manner that is in compliance with the requirements the Project Agreement and this RFP and the RFP Documents, and that maintains the utility of the assets over the Term. The services during the operating phase are described in the Project Agreement and certain requirements are included below in the column labelled “Operations Performance Requirements” of **Table B2-1 Operations Scope, Reporting and Consequences**. Operator shall generally provide any services reasonably required, but not listed, to operate, repair and maintain the Project and sustain a fully functioning facility.

2.2 Monthly and Annual Reports to Province

Operator must develop and maintain a system for documenting the operation of the Project, and preparing monthly reports to the Province, and submit same in the Operating Quality Control Plan. The information includes, but is not limited to that required for regulatory purposes and calculation of payments due. The Province may require additional information that the Operator would normally be expected to compile in accordance with good industry practices to complete documentation of the operation of the Project.

Operator shall prepare and certify the accuracy and completeness of the following reports:

- (a) **Monthly Report.** This includes summaries of “Performance Indicator” items described in the column below. Province Representative may request clarifications and additional information on details of report from time to time.
- (b) **Annual Performance Report.** Summary of calendar year activity and Performance Indicators described below. Province Representative may request clarifications and additional information on details of report from time to time.

3.0 Major Events, Minor Events and Quality Events

“Major Event”, “Minor Events” and “Quality Events” are all defined and described in the Schedule O - Payment Mechanism section of the Project Agreement. Each Operations Performance Requirement described below generally has one of these events associated with performance (or non-performance). Major Events and Minor Events always lead to deductions to the Operator’s monthly Periodic Payment for services, while Quality Events lead to small bonuses to the monthly Periodic Payment.

Major Events are generally related to failures to achieve important water quality performance requirements and can lead to a deduction of 100% of a Month’s Periodic Payment.

Minor Events and Quality Events are related to lower priority issues and result in deductions or addition equivalent to approximately 1% of a single Day’s Periodic Payment amount (for each occurrence of a Minor Event and Quality Event during such Month).

4.0 Start-Up Commissioning Deduction Limitation

During the first 18 months after Substantial Completion as Operator is commissioning the Project, deductions from the monthly Periodic Payment shall be limited to a maximum of 50% of any month’s payment.

Table B2-1: Operations Scope, Reporting and Consequences

Ref. No.	Operations Performance Requirements	Performance Indicator	Operator Response & Rectification Requirement	Consequences
OPR1	<p>Perform all Operations throughout the Term as described in the Section 35.3 (Details of Operating Requirements) of the Project Agreement (the “Operating Requirements”), as amended from time to time.</p> <p>Operator shall perform all these Operating Requirements in accordance with professional industry standards and practices for water treatment facilities.</p>	<p>General obligation of Operator. Operator responsible for performance and monitoring in accordance with Project Agreement.</p> <p>No specific reporting Operating Requirements unless stated otherwise in Project Agreement, this Appendix or specifically requested by Province’s Representative from time to time.</p>	<p>Operator to immediately rectify all Operating Requirement failures and problems.</p> <p>Operator to notify Province’s Representative of all material failures, problems or deficiencies in performance and satisfaction of the Operating Requirements in the Monthly Report.</p> <p>In addition to other requirements in this Appendix, Operator to diligently respond to and implement all reasonable Province’s Representative written requests regarding Operating Requirements within the time period requested by Province’s Representative.</p>	<p>Save as otherwise provided in this Appendix, failure to diligently respond to and implement any written requests regarding any Operating Requirement matter shall be deemed a Major Event for each written request (unless Province’s Representative deems such failure a Minor Event, in its sole and absolute discretion).</p>
OPR2	<p>Ensure WTP effluent and by-pass events meet Regulator permit requirements under the <i>Waste Management Act</i> draft Discharge Permit PE-17469 as summarized in Appendix C of this RFP and</p>	<p>General obligation of Operator. At all times throughout the Term, Operator to measure, collect, compile and report all WTP effluent and by-pass parameters required to</p>	<p>Immediate Major Event for any incidence on any Day of water effluent being discharged that is over the Discharge Permit requirements in any respect.</p>	<p>Major Event for each Day such event occurs.</p> <p>Multiple water parameters being out of specification on the same Day shall not be cumulative.</p>

	in accordance with the Standards.	demonstrate to Province and Regulator satisfaction of the Discharge Permit. Operator to immediately report all incidents of WTP effluent and by-pass events being outside Discharge Permit limits for any water parameter to all appropriate regulatory authorities and also report such events in the Monthly Report.		Multiple Days of water parameters being out of specification shall each trigger a new Major Event during a Month.
OPR3	Achieve annual average water effluent targets at the “Provincial Guidelines” level as described in section 3.4.5 of this RFP.	Operator to measure this effluent target and report in the Annual Performance Report.	This is a bonus addition to the Periodic Payment.	Operator awarded twelve (12) Quality Events at end of year if annual average target achieved.
OPR4	Manage mine reservoir to minimize the number of by-pass events and minimize the amount of untreated Contaminated Water from the Workings being discharged into Howe Sound.	General obligation of Operator. Operator responsible for performance and monitoring in accordance with Project Agreement.	Operator responsible for performance and monitoring in accordance with Project Agreement.	Monthly Payment adjustments for volume of water treated in accordance with Payment Mechanism.
OPR5	Pump and treat groundwater in accordance with the Province’s Groundwater Management Plan (to be developed)	General obligation of Operator. Operator responsible for performance and monitoring in accordance with Project Agreement.	Operator responsible for performance and monitoring in accordance with Project Agreement.	Monthly Payment adjustments for volume of water treated in accordance with Payment Mechanism. Province’s Groundwater Management Plan (to be developed) may result in changes to the way Operator is compensated for treating

				groundwater (including placing a limit on the amount of volume payments each month)
OPR6	<p>Collect, compile and report all WTP effluent operational data as described in Section 1 of this Appendix.</p> <p>All periods where WTP effluent is above Regulator limits is to be identified (including time periods of such events and volume of water discharged under such conditions).</p> <p>Operator and Province to establish reasonable guidelines for reporting data.</p>	<p>Operator must keep all records of such effluent data on-site with appropriate off-site backups.</p> <p>Provide summary analysis in Monthly Report and Annual Report.</p> <p>It is critical Operator always collect, compile and report WTP effluent operational data. Failure to perform this function will be deemed equivalent to the Project being out-of-specification for Regulator requirements.</p>	<p>Failure to collect, compile and/or report WTP effluent operational data at any time may be deemed a Major Event.</p> <p>Seriousness of deviation from continuous measurement to be determined by Province.</p> <p>Every effluent data not collected shall be deemed to have failed its required Standard for the period where such data was not collected, compiled or reported for the purposes of this Agreement.</p>	<p>Major Event.</p> <p>Material inadequacies in measurement may result in a deemed Major Event for each Day measurement data is unavailable or inadequate during a Month.</p>
OPR7	<p>Collect, compile and report all operational data on groundwater, mine water from the Workings and storm water as described in Section 1 of this Appendix.</p> <p>Operator and Province to establish reasonable guidelines for reporting data.</p>	<p>Operator must keep all records of such data on-site with appropriate off-site backups.</p> <p>Provide summary analysis in Monthly Report and Annual Report.</p>	<p>Failure to collect, compile and/or report non-effluent operational data at any time shall be deemed a Minor Event.</p> <p>Continuous failure to collect, compile and/or report non-effluent data for a period of 30 consecutive Days shall be deemed a Major Event.</p>	<p>Minor Event for any Day missing any period of non-effluent data.</p>
OPR8	<p>Perform all sampling and analysis in strict compliance</p>	<p>General obligation of Operator.</p>	<p>Failure to measure or analyze any parameter using</p>	<p>Major Event for WTP effluent.</p>

	with methodologies as described in this Appendix. Obtain advanced approval from Province for changes to sampling, analysis and reporting methodology.	All sampling methodologies should be consistent over time to allow comparison and performance monitoring.	an approved methodology may be deemed a failure of such parameter at the sole discretion of Province Representative. Province may reject changes in sampling and analysis and require Operator to return to original methodology.	Minor Event for non-effluent measurements. Each incidence deemed a failure by Province Representative shall result in the same consequences as if the parameter had failed to meet required Standards applicable to such parameter, with resulting deduction from the Monthly Payment.
OPR9	Lost, stolen or otherwise unavailable records for any reason on WTP effluent and other material parameters.	Ongoing requirement. All deviations to be reported to Province.	Immediate Major Event for all Days with missing or partial data.	Major Event per Day if any portion of Day missing data.
OPR10	Failure to accurately and adequately report material information about Project operations to Province.	Ongoing requirement. All deviations to be reported to Province.	Immediate Major Event for all Days with inadequate or partial data.	Major Event per Day of inaccurate or inadequate data.
OPR11	Collect and compile data related to snow pack, snow-melt rates, reservoir levels, and use this information to manage the flow of water to the Project.	General obligation of Operator. Operator to summarize collected data in Monthly Report.	Failure to collect, compile and/or report Workings data at least Monthly shall be deemed a Minor Event.	Minor Event for any Month missing Workings data.
OPR12	Submit all reports and communications as required by the Project Agreement	Operator to prepare all reports as required from time to time. Province may request updates and changes to any report from time to time.	Failure to submit any report can have serious consequences, at the discretion of Province's Representative. Submissions between 1 to 30 Days late shall receive a	Minor Event per Day late if up to 30 Days late. Major Event for each subsequent late beyond 30 Days.

			Minor Event for each Day such reports are late. Submissions later than 30 Days shall be deemed a Major Event for each subsequent Day late after 30 th Day.	
OPR13	Maintain good community relations and promptly and courteously respond to all written or faxed complaints.	<p>General obligation of Operator.</p> <p>Summary total of all complaints to be provided each Month in Monthly Report along with summary total of all responses.</p> <p>Briefly summarize any issues creating a significant amount of complaints in Monthly Report.</p>	<p>Operator must courteously respond in writing within 15 business days of receiving complaint.</p> <p>Operator to make reasonable efforts to address issues generating repeated complaints.</p>	Failure to respond to written complaints from third parties within 15 business days shall result in a Minor Event.
OPR14	Operate the Project and associated infrastructure/systems when Contaminated Water from the Workings is available for treatment and cannot be stored in the reservoir.	<p>Monthly Report summary of daily operations (water treated).</p> <p>Report of all days when water was not treated, and all days when Project was not available for treating water. Identify length of time Project was not in operation. Report reason for such failures.</p> <p>Operator must notify Province’s Representative immediately via electronic mail or telephone with follow-</p>	Operator to resume water treatment immediately upon being able to do so after problem is resolved.	<p>Major Event if:</p> <p>(a) Target for treatment of Contaminated Water from the Workings is not met in any Day,</p> <p>(b) the reason for such failure is not due to Abnormal Circumstances, and</p> <p>(c) such failure results in the discharge of Contaminated Water via the by-pass system.</p> <p>FAILURE EVENT</p>

		<p>up confirmation in writing within 24 hours for any failure to treat mine water or groundwater (when mine water is available to treat that cannot be stored in the reservoir). Such notice must explain reason for treatment failure and plan to fix problem.</p> <p>Target: Constant operation of Project when mine water cannot be stored in the reservoir, and 98% plant availability to treat groundwater.</p>		<p>CONDITIONS RELATED TO GROUNDWATER ARE TO BE DETERMINED.</p>
OPR15	<p>Complete Operational Acceptance Testing (as described in Appendix B) within 12 Months of Substantial Completion.</p>	<p>Operator to notify Province’s Representative upon commencement of Operational Acceptance Testing, and to certify successful completion.</p>	<p>Failure of Operational Acceptance Testing deemed a deficiency.</p> <p>Operator must immediately proceed with a plan to repair such deficiency (at Operator’s cost).</p> <p>Operator’s Consultant to certify to Province’s Representative that Operator has implement all necessary changes to allow Project to satisfy Operational Acceptance Testing.</p> <p>A new Operational Acceptance Test is to then be performed.</p>	<p>Failure of this OPR shall result in a 20% of the Major Event deduction per Day deduction to the Periodic Payment as described in the Payment Mechanism of the Project Agreement.</p>

			This process to be repeated until testing satisfies Operational Acceptance Testing requirements.	
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