

Appendix G

Guide for Waterpower Projects

Scope of Information and Reports by the Independent Engineer

A. Preamble

[Name] (the "Licensee") is proceeding with the construction of the [Name] Waterpower Project (the "Project"). The Project, located on [name of stream], is authorized by Conditional Water Licence [Number] (the "Licence"), which forms part of this document. The works of the Project are described under clause (h) of the licence.

The Licensee is required under clause (i) 1) of the Licence to retain an Independent Engineer who will provide information and reports under the direction of the Engineer under the *Water Act* (the "Engineer") regarding the design and construction of the works. The Licensee is also required to retain an Environmental Monitor as set out in the Licence.

The information and reports to be provided by the Independent Engineer to the Engineer under the *Water Act*, and the Independent Engineer's relationship with the Licensee, Design Engineer, Construction Engineer and Environmental Monitor are described in this document.

B. Regulation of the Construction of Works

The Engineer has the power to regulate the construction of works, which regulation may consider the following:

- 1) The criteria for the design and construction of works to protect the public and the environment.
- 2) The criteria for the operation of the works to protect the interests of licensees, riparian owners and owners of land adjacent to the works, and protect the environment from adverse effects.
- 3) The construction activities that may adversely affect the public, the environment and the interests of licensees, riparian owners and owners of land adjacent to the works.

If the Engineer has determined that the construction of works may be hazardous to the public and the environment, or the interests of licensees, riparian owners and owners of land adjacent to the works may be adversely affected, the Engineer may issue an order that directs the Licensee to change the manner in which the works are constructed to remove the hazard and adverse effect.

C. Information and Reports

The Licensee is required under clause (i) of the Licence to submit to the Engineer the following:

- a) plans that show the general arrangement of the works;
- b) criteria for the design of the works;
- c) criteria for the operation of the works;
- d) a schedule for the construction of the works;
- e) an environmental management plan (EMP) for the management and mitigation of construction impacts.

The Licensee is also required under clause (j) to ensure that the design drawings for the works to be constructed are signed and sealed by a professional engineer registered in the province of British Columbia (the "Design Engineer").

These submissions by the licensee are the basis for the regulation of the construction of the works.

The Independent Engineer is directed to review the submissions and provide the Engineer with reports as follows:

- 1) Compare the plans showing the general arrangement of the works to the works described by the Licence and describe any differences.
- 2) Assess the criteria for the design of the works to determine if works constructed to these criteria will be a hazard to the public and the environment.
- 3) Assess the criteria for the operation of the works to determine if works operated to these criteria will protect the interests of licensees, riparian owners and owners of land adjacent to the works, and protect the environment from adverse impacts.
- 4) Assess the schedule for the construction of the works to determine if there are any practical matters in relation to the conditions in the Licence and the EMP; and the interests of the public, licensees, riparian owners and owners of land adjacent to the works that the Engineer should consider in the regulation of the works.
- 5) Assess the design drawings for the construction of the works to determine if they are in accordance with the criteria for the design and operation of the works, and they are signed and sealed by the Design Engineer.
- 6) Assess the schedule for the construction of the works and the design drawings for the construction of the works to determine the frequency of the submission by the Licensee of the reports on the progress of construction.
- 7) Review the reports submitted by the Licensee on the progress of the construction of the works to determine if any of the construction activities should be adjusted to reduce the future hazard posed by the works on the public and the environment.
- 8) Summarize any outstanding matters that would make the works a hazard to the public and the environment when the Licensee submits a schedule for testing the works.

The Independent Engineer will prepare a recommendation report for the Engineer on the review of items 1) to 4) above for the issuance of Leaves to Commence Construction.

The Independent Engineer will prepare a recommendation report for the Engineer, copy to the Licensee, Design Engineer and the Construction Engineer, on the review of items 5) and 6) if the actual construction of a particular component of the project may proceed.

The Engineer may direct the Independent Engineer to provide additional information and reports as may be required for the regulation of the construction of the works.

The Independent Engineer will discuss and clarify with the Design Engineer and the Construction Engineer any matters that may need further action. If the Independent Engineer is unable to resolve such matters, the Independent Engineer must immediately notify the Engineer. The Engineer will contact the Licensee, and resolve the matter.

D. Environmental Monitor

The Licensee is required to retain a person (the "Environmental Monitor") to observe and report on the activities of constructing the works in relation to the requirements under the environmental management plan (the "EMP"). The Independent Engineer will be provided a copy of the report by the Environmental Monitor.

The Independent Engineer will review the reports by the Environmental Monitor and advise the Engineer in a written report if the construction activities are adversely affecting the environment and the interests of licensees, riparian owners and owners of land adjacent to the works.

The Independent Engineer and the Environmental Monitor will communicate with each other during the construction of the works to coordinate their activities to provide information to the Engineer for proper regulation of the construction of the works.

E. Leave to Commence Construction

The Licensee may divide the construction of the works into phases. Before the Engineer grants leave to commence construction of any phase of the works, the Engineer must be satisfied that the Licensee has met the requirements under clause (i) of the licence.

The Independent Engineer will provide the Engineer with information and reports as set out in Section C. above for each phase in the construction of the works. The information and reports are to be provided in a timely manner in accordance with the schedule for the construction of the works.

Based on information submitted by the Independent Engineer, the Engineer may issue a leave to commence construction for a particular phase of the project, subject to the Independent Engineer reviewing design drawings and giving consent for construction to proceed.

F. Undertaking and Monitoring of Construction

The Independent Engineer will review the design drawings for the construction of the works, and prepare a report as set out in Section C before giving consent that construction may be undertaken. The Independent Engineer will identify in the report to the Engineer the components within each phase of the construction of the works that are critical for regulating the construction of the works to protect the public and the environment, and the interests of licensees, riparian owners and owners of land adjacent to the works, and protect the environment from adverse effects. A cover letter, with a copy to the Licensee, Design Engineer and the Construction Engineer, would make recommendation if construction of that particular component of works may be undertaken, and this would be sufficient for the Construction Engineer to proceed with construction.

The Independent Engineer will schedule site inspections to verify that the conditions for the construction of the critical components are in accordance with the construction plans, and provide the Engineer with a report on the outcome of the inspection.

G. Testing the Operation

The Independent Engineer will monitor the testing of the operation of the works to determine if the operation poses a hazard to the public and the environment, and submit to the Engineer a report on the outcome of the monitoring.

H. Acceptance

The information and reports to be provided by the Independent Engineer to the Engineer as set out above is acceptable to:

Name: _____ Date: _____
Independent Engineer

AND

The Licensee agrees to retain the Independent Engineer to provide the information and reports to the Engineer as set out above.

Name: _____ Date: _____
Licensee

Appendix A - Contact List

Engineer under the *Water Act*

Name:

Position Title:

Office Phone Number:

Mobile or Alternate Phone Number:

Mailing Address:

Independent Engineer

Name:

Position Title:

Company:

Office Phone Number:

Mobile or Alternate Phone Number:

Mailing Address:

Licensee Representative

Name:

Position Title:

Company:

Office Phone Number:

Mobile or Alternate Phone Number:

Mailing Address:

Design Engineer

Name:

Position Title:

Company:

Office Phone Number:

Mobile or Alternate Phone Number:

Mailing Address:

Construction Engineer

Name:

Position Title:

Company:

Office Phone Number:

Mobile or Alternate Phone Number:

Mailing Address: