



*Land and Water  
British Columbia Inc.*  
A corporation of the government of British Columbia

**Obtaining Approval to Build  
a Waterpower Project  
under the *Land Act* and the *Water Act***

**APPLICATION GUIDEBOOK**

**WORKING DRAFT**

April 30, 2002

**Table of Contents**

**A. Preamble**

**B. Overview of the Process**

**C. Steps of the Application Process**

- STEP 1 - Submission of Application
- STEP 2 - Acceptance of Application
- STEP 3 - Development Plan
- STEP 4 - Project Review
- STEP 5 - Decisions on Applications
- STEP 6 - Construction of Project
- STEP 7 - Operation of Project
- STEP 8 - Monitoring of Project

**Appendices:**

**Appendix A- Waterpower Project Application Checklist**

**Appendix B- Development Plan- Template**

**Forms and Supplementary Information:**

- Application for a Water Licence
- Water Licence Application Guide
- Required Drawing Standards
- Schedule 2- Dam & Reservoir Information
- Schedule 3- Power Information
- Application for Crown Land
- Crown Land Application Guide
- Economic Impacts Questionnaire

LWBC responsibilities

## A. PREAMBLE

The use of Crown water and land resources for waterpower production requires a water licence under the *Water Act* and may require tenure(s) under the *Land Act* where structures such as the powerhouse site, road, transmission line etc are proposed for Crown land. Land and Water British Columbia (LWBC) is responsible for reviewing and making decisions pursuant to both the *Water Act* and the *Land Act*. The application review requirements and project review are described in this Guidebook.

Waterpower projects of less than 50 megawatts (MW) capacity are reviewable by LWBC. Projects in excess of 50 MW of capacity, or those otherwise designated by the Minister, are subject to review under the British Columbia *Environmental Assessment Act (EAA)* prior to LWBC's licencing process. In such cases, the proponent must submit an application for a Project Approval Certificate under the *EAA* to the Environmental Assessment Office at which time the requirements under the *Water Act* and the *Land Act* will be identified. If the project is approved under the *EAA*, any licencing under the *Water Act* and *Land Act* is provided by LWBC.

Information referral  
and a balanced decision

Waterpower projects may have significant impacts on environmental, social and economic values. In this regard, LWBC will ask for input in the review of the project to ensure that allocation decisions are balanced and:

- meet the needs of the communities
- protect sensitive ecosystems, and
- create diverse and sustainable economic opportunities.

Input in the review of waterpower projects may be provided by local, provincial and federal government agencies (potentially including review under the *Canadian Environmental Assessment Act*), as well as First Nations, non-government organizations and the general public.

## B. OVERVIEW OF PROCESS

This Guidebook sets out the information that the proponent is required to submit to initiate the review of a project, and the additional information to be submitted for completing the assessment of the impacts of the project. The information to be provided for the construction and operation of the project is also described.

Waterpower projects require a water licence under the *Water Act*. Approval under the *Land Act* is required for any project component situated on Crown land, including roads and transmission lines. As such, LWBC will review a waterpower

project using a “one window” approach and all decisions regarding the applications for a water licence and Crown land tenure will be made concurrently.

The process described will be adapted to suit the complexities of a particular project to ensure transparency of process, fairness to the proponent and all interested persons, and a timely decision.

### **Steps 1- 8**

#### **STEP 1**

##### **Submission of Application**

Proponent is required to submit all information summarized in Appendix A- Waterpower Project Application Checklist to LWBC.

#### **STEP 2**

##### **Acceptance of Application**

LWBC will review the application for completeness. Incomplete applications will be returned to the proponent. Proponent will be advised of acceptance and the contact person in LWBC for the project.

#### **STEP 3**

##### **Development Plan**

The proponent is responsible for completing the Development Plan, which includes the Project Definition and Impact Assessment (see Appendix B- Development Plan Template). The time for submitting the Development Plan is set by LWBC in consultation with the proponent.

#### **STEP 4**

##### **Project Review**

LWBC may ask local, provincial and federal government agencies, as well as First Nations, non-government organizations and the general public for input on the project as appropriate. Persons whose rights may be affected by the project will be notified. The review of the project by affected agencies may occur either through written submissions or by participation on a project review team.

#### **STEP 5**

##### **Decisions on Applications**

When LWBC determines that a proponent has satisfactorily addressed the issues associated with the project, a water licence will be issued conditional on acquisition of Crown land tenure or title to private land. Where Crown land is required, an offer of tenure will be provided.

**STEP 6**

**STEP 7**

**STEP 8**

**STEP 1**

Application forms

**Construction of Project**

The proponent must obtain authorization under the *Water Act* before construction of the project can commence.

**Operation of Project**

The proponent must obtain "leave to commence diversion of water for operation" from LWBC prior to generation of electricity.

**Monitoring of Project**

Compliance of the project will be subject to the oversight of the regulatory agencies.

**C. STEPS OF THE APPLICATION PROCESS**

**STEP 1 - Submission of Application**

Application forms and information on filing an application for a water licence and Crown land tenure are available through offices of LWBC. The forms and information are also available through the Internet at <http://lwbc.bc.ca/>.

Applications for a water licence and Crown land tenure associated with a waterpower project should be submitted after the proponent has investigated the site sufficiently to provide all items required for a complete application package. The items to be submitted, as per Appendix A, Waterpower Project Application Checklist, include:

1. Payment of the appropriate fees for the water licence application and Crown land application. LWBC is moving to consolidated application fees for water licences and land tenures. In the meantime:
  - i) payment for a water licence should be in the form of a cheque or money order payable to the Minister of Finance;
  - ii) payment for the land tenure should be in the form of a cheque or money order made payable to Land and Water British Columbia Incorporated. LWBC's GST Registration number is 12237-3046-RT.
- a) A water licence application fee in accordance with the rates noted below (refunds paid in accordance with the Financial Administration Act.):
  - i) Residential use (up to 25 kW for one household), all applications.....\$100

ii) Commercial use (up to 499 kW), of which less than 5% of energy may be sold), all applications.....\$200

iii) General use

- Power plant less than 5MW.....\$2,000
- 5MW to less than 20 MW.....\$5,000
- Equal to or greater than 20 MW.....\$10,000

**b)** If water storage will be required, an additional fee (+7% GST) in accordance with the following rates:

- Less than 100 acre feet.....\$150
- 100 acre feet to 1,000 acre feet.....\$400
- Greater than 1,000 acre feet but less than 5,000.....\$1,000
- Equal to or greater than 5,000 acre feet ...2,000

**AND**

**c)** A **non -refundable** Crown land application fee of (\$100.00 + 7%GST).....\$107

**2.** An **APPLICATION FOR A WATER LICENCE** and SCHEDULE 3-POWER INFORMATION. If the project will store water for use during low flow, SCHEDULE 2-DAM AND RESERVOIR INFORMATION must also be submitted.

**3.** An **APPLICATION FOR CROWN LAND** for Crown land tenure, where required.

**4.** A Certificate of Incorporation when the proponent is a registered company within the province of British Columbia. (Please see Eligibility Requirements as per STEP 1)

**5.** Submission of maps as follows:

- A general location map (1:250000 to 1:50000) showing the general location of the proposed operating area, the location of access roads, watercourses, district lots and other major landmarks as reference points, nearby towns or cities. Include a pointer to the location of the project.
- A topographic map at a scale of 1:50 000 which covers the area of proposed water use (boundaries of the watershed above the intake, and any other points on the stream that are significant to the project) in relation to nearby communities, highways, railways etc.
- A drawing (1:20 000 or larger), as per the Required Drawing Standards, including source information, place of use and property boundaries and

proposed works. The plan must also identify the owners of the private lands affected by the project.

The land on which the water is to be used for a waterpower project is the land on which the powerhouse will be situated. Any water licence that is granted will be appurtenant to this land.

Where the land required for the powerhouse site is Crown land, an application for tenure to the Crown land under the *Land Act* is sufficient interest for the *Water Act* application to proceed. For a powerhouse located on private land, the legal description is straightforward, and the proponent's interest may be legal title or an option to purchase.

If the project requires the use of Crown land for any components:

- A preliminary document print (1:20 000, rural area to 1:5000, urban area) with a north arrow, showing the exact perimeter boundaries of the polygon-shaped Crown land application area(s). The print should include the tentative location of all improvements on Crown land (powerhouse, penstock, intakes, staging areas, head ponds) with the dimensions (in meters) and area (hectares) as well as watercourses, district lots and major landmarks as reference points. The boundaries of the polygon-shaped application area should be:
  - generous enough to accommodate any improvement siting changes required by the proponent prior to tenure issuance, but;
  - specific enough so as not to include lands the proponent will not require.

Generally, the polygon-shaped area will require refinement and reduction by the proponent during STEP 3 or 4 resulting in the submission of the revised document print.

If the project requires the upgrading of an existing road on Crown land or construction of a new road on Crown land:

- A preliminary document print (1:20 000, rural area to 1:5000, urban area) with a north arrow, showing the exact perimeter boundaries of the area where road upgrading or construction is required as well as watercourses, district lots and major landmarks as reference points. Generally the perimeter boundaries or the route of the road will require refinement by the proponent during STEP 3 or 4 resulting in the submission of a revised document print.

If the project requires the transmission line to be located on Crown land, a preliminary document print, as above, should also be provided. The preferred route should be outlined as well as any potential alternate routes.

6. Submission of titles, survey plans, charges and legal descriptions.
  - A copy of the State of Title Certificate(s) (from the Land Title Office) for any parcels on which the project will be built.
  - A copy of all survey plans and charges described in the title(s) indicated above.
  - A legal description of all adjacent lands that will be affected by the project.
7. Submission of a Preliminary Project Definition, which should include the following information:

#### **Executive Summary**

**Proponent Identification** - company name, incorporation number, ownership and operation of facilities, "key" team members, Project Lead contact information.

#### **Project Description**

- Project Location (geographic location and on the ground directions to reach each component).
- Road Access (i.e. active or inactive Forest Service Road, a Crown land road that requires upgrading or construction of a new road)
- Transmission Line Route (if known).
- The Proposed Works for Diversion and Use of Water, i.e. powerhouse, penstock, intakes, staging areas, head ponds.

#### **Capacity of Power Plant and Water Quantity to be Diverted**

- The estimated average annual generation of electricity, and monthly distribution of average generation of electricity.
- The basis for the capacity of the project, and whether the project will fully develop the potential of the site.
- The connection of the project with other projects either proposed or existing, and the extent of any discussions with the owners of the other projects on sharing of facilities.
- The extent of the investigation and quantity of data on which the project is based. For example, is the availability of water based on long-term records on the stream, or a cursory analysis of a few years of stream flow measurements on a nearby stream? (The data should not be included with the Preliminary Project Definition).

**Potential markets** - i) Personal use, ii) Direct sale to customers, or iii) Direct sale to utilities company.

- The proposed market for the electricity (e.g. for sale , for use by owner in the extraction or processing of natural resources,



or for distribution to end user). This information will help determine the interests of other agencies, such as the BC Utilities Commission. The proponent should indicate whether an energy purchase agreement is under negotiation, and the stage of those negotiations.

To obtain BC Hydro contact numbers and the green criteria see: <http://www.bchydro.com>.

For answers to general BC Hydro IPP (Waterpower) questions e-mail: [green.ipp@bchydro.com](mailto:green.ipp@bchydro.com)

## Water Regulation

### Proponents Eligibility

The requirements for an application for a water licence are set out in Section 2 of the *Water Regulation*, which are provided on the Internet at [http://www.qp.gov.bc.ca/statreg/reg/W/Water/204\\_88.htm](http://www.qp.gov.bc.ca/statreg/reg/W/Water/204_88.htm).

The requirement of section 2(1)(f) and (g) should be noted in particular, which require the proponent to provide information as follows:

- (f) The legal description of the land, mine or location where the water is to be used; and
- (g) The proponent's title to or interest in the land, mine or location where the water is to be used.

The *Water Regulation* in section 2(1)(f) also requires the proponent to provide legal descriptions of all lands on which it proposes to construct works, or that will be affected by flooding.

## Land Act

The requirements of an proponent for land tenure are set out in Section 10 of the *Land Act*. Under the Land Act the proponent must be:

- A Canadian citizen or permanent resident who is 19 years of age or older;
- A corporation incorporated in the Province of British Columbia or registered under the laws of Canada;
- An Indian Band Council, where supported by a Band Council Resolution that
  - i) authorizes the council to enter into the tenure arrangement, and
  - ii) gives the signatories of the tenure document the ability to sign on behalf of the Band;
- A registered partnership, cooperative, or non-profit society.

### Proposed Development Plan Schedule

- A proposed schedule for completion of the Development Plan as per Appendix B, Development Plan Template.

Economic Impacts  
Questionnaire**STEP 2****Proposed Construction Schedule**

- A schedule for the review and construction of the project. This schedule should estimate the time the proponent needs to collect the information to complete the [Development Plan](#) and construction.
8. Submission of an “Economic Impacts Questionnaire”. Waterpower projects have the potential for a significant economic contribution to British Columbia. To assess the economic impact, LWBC is asking proponents to complete this questionnaire. It is acknowledged that the availability of requested information in the early stages of project development might be limited and typically results in estimations.

**STEP 2 - Acceptance of Application**

An application for a waterpower project is considered complete if it provides the information set out in STEP 1 and will be accepted. A letter to the proponent will indicate that the application has been accepted and may provide the proponent with further instructions or requirements for review of the project. At this time the Client Service Coordinator's name and number will be provided to the proponent as the LWBC point of contact. When the project is to proceed through review, a technical staff person will be assigned as the contact person and the proponent will be asked to contact this person for any specific information regarding the application.

The letter of acceptance will also indicate to the proponent that they are required to place a Staking Notice at the project site as per staking instructions provided by LWBC in the letter.

If the application is incomplete it will be returned to the proponent. The proponent will be informed of any deficiencies and advised that a new application may be submitted when the deficiencies are remedied.

**STEP 3****STEP 3 - Development Plan**

The Development Plan provides the information that LWBC requires to determine the basic conditions of a land tenure and water licence that may be issued. It also provides the information for assessing the project to determine the conditions for mitigating or compensating any impacts (see Appendix B- Development Plan Template).

When a project has been selected for review, the proponent will submit the Development Plan, on a timeline to be agreed upon by LWBC and the proponent.

**Project Definition**

The Development Plan consists of two sections: the Project Definition and the Impact Assessment. The Project Definition expands upon the Preliminary Project Definition submitted in STEP 1 to provide a more thorough description of the project.

The Project Definition in the Development Plan should not substantially change from the Preliminary Project Definition provided in the application. The capacity of the project and the quantity of water to be diverted can be increased if supported by additional information, e.g. a better analysis of the availability of water. Also, the location of the works, e.g. the alignment of the penstock, can be adjusted provided that the location remains within the area of Crown land indicated in the application submitted under STEP 1.

A Project Definition that substantially changes the project as described in the Preliminary Project Definition provided in the application may require the proponent to return to STEP 1 and submit a new application.

**Impact Assessment**

The second part of the Development Plan is the Impact Assessment. This part of the report should identify all impacts of the construction and operation of the project. The Development Plan Template gives direction for the completion of the Impact Assessment. Impacts that are complex and that require the collection of much information for a complete evaluation should be discussed with LWBC for direction before completing the assessment.

During the preparation of the Development Plan, the proponent may wish to meet with agencies that will have an interest in the project. At this step of the process, these agencies can only be expected to provide general information regarding their mandate for a particular impact. The formal review of the project by these agencies will be provided in STEP 4.

When the proponent has reasonably investigated and assessed all impacts from the construction and operation of the waterpower project, the Development Plan should be submitted. LWBC will review the Project Definition to determine that the all the information required under the *Water Act* and the *Land Act* is complete and in sufficient detail that it will not substantially change on the completion of final design. This is a subjective test, and LWBC will thoroughly review with the proponent prior to a LWBC request for greater detail on the Project Definition.

The Impact Assessment section of the Development Plan will be reviewed by LWBC and other agencies to determine that the proponent has identified all known impacts and has proposed reasonable mitigation or compensation to address the impact. If an impact cannot be fully addressed, the Development Plan

should include draft terms of reference for completing the studies to address the impact.

When LWBC is satisfied that the Development Plan is complete, the proponent will be notified of the next step.

**STEP 4****STEP 4 - Project Review**

The review of a project is initiated with a request for input from interested persons and agencies to identify all the impacts and the information that is required to assess the environmental and social impacts. The review must also determine the effect of the project on other holders of water licences, proponents for water licences, riparian owners on the stream of the project, and other Crown land tenure holders in the area.

The environmental and social impacts of a project may be reviewed through an exchange of written material between LWBC, other agencies or affected parties (the “parties”) that have an interest in the Project. Alternatively, a Project Review Team (PRT) may be established to review the Development Plan and assess impacts of a project. Where a PRT is organized, the proponent will be notified and provided an opportunity to make a presentation of the project to the PRT.

The review of most projects will commence with the exchange of written material. The information submitted under STEP 1 and the Development Plan will be sent by LWBC to the interested parties whose input is needed. These parties would be asked to respond to questions such as the following:

- Does this application impact your agency's legislated responsibilities?
- What mitigative measures would be required if your responsibility is impacted?
- Will the proponent require an approval or permit from your agency?

The information provided by the parties will be sent by LWBC to the proponent for a response. If the proponent can provide information that satisfies LWBC that all the concerns raised by the parties can be addressed to LWBC's satisfaction, a decision will be made on the application for the Waterpower project. The decision process is described in STEP 5.

If a review indicates that additional information is required, the proponent would be asked to prepare terms of reference for the data collection and analysis. These terms of reference would be reviewed by LWBC with the interested party and the proponent.

**Project Review Team**

The review of the terms of reference would be conducted through written communication, including e-mail, and meetings if appropriate.

Several parties may raise concerns, indicating that the impacts are complex or that there may be a public interest in the project. At such time LWBC may convene a PRT to conduct the project review.

LWBC may also establish a PRT at the time that the information submitted under STEP 1 and the Development Plan is sent to the interested parties whose input is considered advisable. The PRT may also be appropriate for projects that require a review under the *Canadian Environmental Assessment Act*.

The PRT is a forum for co-ordinating the input of the parties to ensure that the impacts of the project are fully understood by all regulatory agencies, and for developing the terms of reference for additional information needed to assess the impacts. LWBC does not require consensus from the members of the PRT on the impacts of a project, and the position of each party will be considered in setting the terms and conditions for decisions under the *Water Act* and *Land Act*.

**Site Inspection**

The review of the project will require an inspection of the site. This will be arranged by LWBC with the proponent and any of the parties that are interested. The proponent may be required to provide transportation to the site.

**Notice**

Holders of water licences, proponents for water licences, and riparian owners on the stream of the project may be given notice by LWBC when it becomes clear that the rights of these persons may be affected by the project. These persons will have 30 days to file an objection to the application for the water licence. If additional information is needed to clarify the objection, LWBC will meet with the objector and proponent as appropriate to address the matter.

**Public Advertising**

LWBC will advise the proponent of requirements for public advertising in a local newspaper and/or the BC Gazette. The proponent will be required to submit newspaper cut sheets or newspaper cut-outs as proof of advertising.

**Public Consultation**

Some projects will also require the proponent to engage in a public consultation. The timing and degree of this consultation will depend on the public interest in the project. LWBC may require the proponent to submit a proposal for public consultation at the beginning of STEP 4.

When the proponent presents the project to the public in an "Open House", LWBC and agencies may attend as observers. It will be

the responsibility of the proponent to identify the persons that attend and to report on the issues raised at the Open House.

Information provided by the public through Open Houses or directly to LWBC will be reviewed to identify any new issues and to determine whether further information is to be provided by the proponent.

NOTE: Co ordination and timing of the notice, public advertising and public consultation will be determined on a project by project basis.

#### First Nations

The information submitted in STEP 1 and the Development Plan may be referred to First Nations as the first step in the assessment of potential First Nations' interests. LWBC has procedures consistent with provincial guidelines ([http://lwbc.bc.ca/pdf\\_docs/aiap.pdf](http://lwbc.bc.ca/pdf_docs/aiap.pdf)) to assess the *potential* for infringement on aboriginal rights or title over land and water resources, and if the potential for infringement exists, to identify reasonable opportunities to accommodate aboriginal interests, mitigate infringement or negotiate a resolution.

Proponents may wish to meet with First Nations in the vicinity of the project in addition to the LWBC process and may want to contact LWBC prior to setting meetings with First Nations.

#### Addendum Reports

A complex project may have the review of several matters proceeding in parallel. The review of each of these matters may result in requirements for additional information to address a specific concern. Whenever the proponent is asked to provide information supplementary to the Development Plan, the information will be provided as an addendum report to the Development Plan. Addendum reports should be titled as per the project name and report number i.e. High Falls Ltd- Addendum Report #3.

The addendum report will be referred to the interested party for comments or reviewed by the PRT, as appropriate.

#### Summary Report

When the requirement for information has been provided, the proponent will submit a report that summarizes the outcome of the review. The report should be 15 to 25 pages in length, and the format is the template for the Development Plan. The proponent should consult with LWBC in the preparation of this report.

#### Document Print

If the document prints for the application area, including any roads or transmission lines (where required) have not been submitted to date, then LWBC will require submission prior to STEP 5. The document print requirements are the same as for the preliminary document prints outlined in STEP 1 (north arrow etc.), but

additionally the document print requires that the Crown land **application area be outlined in red**. This print may be requested at any time during STEPS 3 or 4 if LWBC or other agencies require the information to determine impacts of the project.

The review of a project may identify impacts that the proponent determines cannot be mitigated or compensated. In this circumstance, the proponent may abandon the project, or submit a report that summarizes the outcome of the review and request decisions on the applications from LWBC.

<b>STEP 5</b>
---------------

### **STEP 5 - Decisions on the Applications**

LWBC will review all information pertaining to the waterpower project and make a decision concerning approval or disallowance of the project. If all issues have been addressed to the satisfaction of LWBC, the water licence will be issued appurtenant to the land acquired for the powerhouse site.

#### Documentation

Concurrently, the land tenure, where applicable, is provided to the proponent in the form of an "offer". To accept the "offer", the proponent is to sign and return the documents to LWBC for signing by the Service Centre Director. A copy is then returned to the proponent.

#### Security and Liability

Additionally, the offer letter will notify proponents of the amount of security and liability insurance required by LWBC for the purposes of the Crown land tenure.

Proof of Security and Liability Insurance must be returned with the signed offer letter, or sooner, to allow the Service Centre Director to approve the offer. In addition to the aforementioned, the Crown land tenure will also have administrative fees associated with the processing of the land tenure document.

LWBC will notify all interested parties of the decision on the application. Legal objectors and the proponent will be advised of the right of appeal from the decision on the application for the water licence. The right of appeal does not apply to the application for land tenure.

When the project is built, the proponent will be asked to survey the location of the works to determine the area of land occupied by the improvements. LWBC will "offer" leases and statutory rights of way over the improved areas to the proponent based on the occupied areas.

#### Annual Fees

Proponents with approved projects will be required to pay an annual rent for the water licence and land tenure. Water rent rates are as per the *Water Regulation* which can be viewed at:

[http://www.qp.gov.bc.ca/statreg/reg/W/Water/204\\_88.htm](http://www.qp.gov.bc.ca/statreg/reg/W/Water/204_88.htm). The amount of land rent will be dependant upon the amount of land involved and the application of the appropriate land value based on policy.

<b>STEP 6</b>
---------------

### **STEP 6 - Construction of Project**

The water licence that authorises a waterpower project will require the Engineer under the *Water Act* to give leave before construction of the project can begin. The authority to regulate the construction of works is provided in section 30 of the *Water Act*. The regulation of the construction of works must consider the design of the works, the adherence of the works being constructed to the design, and the mitigation of the impacts of construction.

The licence will contain conditions that require the proponent to assist LWBC in the duties of regulating the construction of the works. The intent of the conditions is to create a situation that will provide the proponent with flexibility to design and construct a satisfactory project, and ensure that LWBC can meet the obligations to protect public safety and mitigate environmental impacts.

The conditions are divided into three groups. The first group of conditions defines what the proponent must do before any construction of the works can start. The second group requires the proponent to retain a professional engineer (the “Independent Engineer”) and environmental monitor who will report to LWBC, and the third group defines the service the Independent Engineer retained by the proponent will provide. The conditions in each group are set out below.

#### **- Before construction begins**

1. Ensure that the plans for the works to be constructed are signed and sealed by a professional engineer (not the Independent Engineer) registered in the province of British Columbia.
2. Ensure that a professional engineer (not the Independent Engineer) registered in the province of British Columbia supervises the construction of the works.
3. Submit to LWBC under the *Water Act* the following:
  - a. Plans that show the general arrangement of works to be constructed; and
  - b. Criteria for the design of the works to be constructed.
4. Prepare an environmental management plan for the management and mitigation of construction impacts, which plan is to be to the satisfaction of the Engineer under the *Water Act*.
5. Obtain leave to commence construction, in writing, from the



Engineer under the *Water Act*.

**- Persons to be retained by proponent**

1. A professional engineer (the Independent Engineer) registered in the province of British Columbia who will assist LWBC in the regulation of the construction of the works.
2. A person to monitor the environmental impacts from the construction of the works in accordance with the environmental management plan.

**- Services to be provided by the Independent Engineer**

1. Review the plans prepared in item 1 of the first set of conditions for conformance with the plans and design criteria submitted under item 3 of the first set of conditions.
2. Monitor the construction of the works for conformance with the plans reviewed under item 1 of the third set of conditions.
3. Periodically submit reports to LWBC on the results of the review of the plans and monitoring the construction of the works.
4. Submit to the Engineer a report that summarizes the construction of the works, including the following:
  - Plans showing the general arrangement of the works as constructed; and
  - Confirmation that the works were constructed in accordance with the plans reviewed under item 1 of the third set of conditions.

The report is to be submitted to LWBC within six months of the date the waterpower project goes into operation.

5. Provide any other information or advice that LWBC may require for regulating the construction of the works.

Every waterpower project has common elements, but the details of each are unique. Before the conditions for the construction of the works are fulfilled, the proponent should meet with LWBC to develop detailed terms of reference for the services to be provided by the Independent Engineer. After the proponent has retained the Independent Engineer, further discussion will be required to ensure that the obligations to protect public safety and mitigate environmental impacts are met. A process will be required for resolving issues arising between the Independent Engineer and the proponent's design and build team, and the Engineer under the *Water Act* may want to inspect the site at certain stages of construction.

**STEP 7**

**STEP 7 - Operation of Project**

Waterpower projects may have several conditions imposed on its operation to mitigate the effects of the project on the rights of other persons and to mitigate impacts on social and environmental

values. These conditions will be determined during STEP 4 – Project Review. If these conditions are simple, they may be set out in the water licence for the project.

Operating conditions determined during STEP 4 that are extensive or complex may need to be implemented through a separate order of the Engineer under the *Water Act* to regulate the diversion, rate of diversion, storage and use of water for a waterpower project. The separation of the directive to operate the facility in a particular way from the licence that sets out the rights of a person to divert and use water has two advantages. First, it provides flexibility to alter the operating conditions if appropriate, and second, it allows the construction of the project to proceed if some additional studies are required to refine the operating conditions.

The process for defining the conditions and authorizing the operation of the works would be set out in two clauses in the licence, which are discussed below.

#### **- Report on Parameters**

Before commencing the operation of the works, the licensee would be required to do the following:

1. Submit a report for acceptance of the Engineer under the *Water Act* on the parameters and procedures for the operation of the authorized works. The parameters and procedures must be based on the information on the generation and on social and environmental values considered in the issuance of the water licence.
2. Obtain leave to commence operation, in writing, from the Engineer under the *Water Act*.

The report on the parameters and procedures provides a brief description of the physical aspect of the project, the hydrologic conditions on the stream and values considered in the operation of the facility. The report provides the basis for the order regarding the operation of the facility. This is important if an issue arises many years later regarding the operation of the facility. The report is also a baseline for evaluating any changes that the licensee may propose in the future.

#### **- Authority to Regulate the Works**

The authority to regulate the diversion, rate of diversion, storage, and use of water is provided in section 39 of the *Water Act*. This authority is general to the protection of the rights of licensees, riparian owners and landowners affected by the works. The use of this authority to regulate works to protect social and environmental values requires a specific clause in the licence that will require the licensee to operate the works in accordance with:

1. Procedures ordered by the Engineer under the *Water Act*, including any order for the regulation of the diversion, rate of diversion, storage and use of water as may be required for the preservation of fish, for the provision of flow for recreational kayaking, etc.
2. Any amendment of the procedures ordered by the Engineer.

It is expected that the review process will fully identify all impacts of a project that are to be mitigated through operating measures, and the parameters for such operation. After the Engineer has ordered the procedures, any change to the parameters for a particular operation will require the consent of the licensee. The stipulation that the procedures may be amended provides the licensee with flexibility to propose operational changes. It also allows the Engineer to respond to conditions that affect public safety and events that are not anticipated in the procedures. The authority to amend the procedures does not extend to permanently reducing the right to divert and use water for the purpose set out in the licence.

**STEP 8****STEP 8 - Monitoring of Project**

The licensee must monitor the operation of the project for the amount of electricity that is generated, and compliance with conditions for mitigating impacts. The form for submitting this information will be determined when the project commences operation. The amount of electricity generated by the facility is used to calculate the annual water rentals. The information provided on compliance of conditions ensures that the licensee and LWBC have the same information for responding to any inquiry.

The licence may contain a condition that requires monitoring of an impact to confirm that the assessment under STEP 4 was valid. Such a condition is appropriate where an impact is understood well enough that its impact will not stop the Project, but further information is required to fully define the mitigation or compensation of the impact.

The conditions that set up the monitoring program would be as follows:

1. Prepare a monitoring program suitable to determine the impacts on (describe the subject or matter to be monitored, e.g. fish, Harlequin ducks, recreation, etc.), which monitoring program has to be to the satisfaction of the Regional Water Manager or Comptroller (the “decision-maker”).
2. Implement the monitoring program to the satisfaction of the decision-maker.
3. Continue the program for (a required number) of years

following the commencement of operation of the works or to the satisfaction of the decision-maker.

4. On the completion of the monitoring program, prepare a report that identifies the nature of the impact on (describe the subject of the program) and implement the appropriate mitigation and/or compensation to the satisfaction of the decision-maker.