

## HYDROPOWER FACILITY LICENSING

### **What state and federal agencies are likely to be involved in my efforts to obtain the necessary license or permit for a small hydropower facility?**

The Federal Energy Regulatory Commission (FERC) will likely be involved with permitting any hydropower facility. In cases where a FERC license or exemption is not required, the Vermont Public Service Board (PSB) will probably be involved. The Vermont Agency of Natural Resources (ANR) will be involved in either case. In addition, review may be required by the U.S. Fish and Wildlife Service (if FERC has jurisdiction) and the Vermont Division for Historic Preservation. Construction activities may also trigger review and permitting by the U.S. Army Corps of Engineers. Other state and federal agencies may participate in the licensing process, but involvement will depend on the site-specific circumstances. FERC will coordinate these other reviews in most cases.

### **What process will I need to follow in order to receive the necessary permits for a small hydropower facility? And, where do the licensing requirements come from?**

Most often, FERC has primary responsibility for issuing licenses for hydroelectric projects. Detailed information on the FERC licensing process is available on-line at:

[http://www.ferc.gov/industries/hydropower/gen-info/handbooks/licensing\\_handbook.pdf](http://www.ferc.gov/industries/hydropower/gen-info/handbooks/licensing_handbook.pdf)

The FERC licensing process is based on consultation with other agencies (as described above) to develop a record on which FERC can base its licensing decision. The licensing requirements come from the Federal Power Act (FPA), National Environmental Policy Act (NEPA), Fish and Wildlife Coordination Act, the Endangered Species Act, the National Historic Preservation Act, the Clean Water Act (CWA) and other statutes. The FERC licensing process includes:

- Filing a notice of intent to seek a license;
- Developing a pre-application document (PAD) which contains existing engineering, economic, and environmental information relevant to licensing the project;
- Completing studies necessary to define the engineering and economic feasibility of the project and to determine environmental constraints and necessary mitigation;
- Consulting with relevant federal, state, and interstate resource agencies, and the public on project design and the impact of the proposed project; and
- Preparing and filing the license application.

Developers of some small projects choose to seek a FERC “exemption” instead of a license, if they qualify (as further explained in Part 6 of the FERC handbook); “exempt” projects are *not* exempt from federal and state review and permitting, however. An exemption is in fact a permit process, but with fewer steps.

The FPA requires evidence of compliance with state and local requirements before FERC can issue a license. The CWA requires that FERC-licensed projects comply with state water quality standards. That standard is met when ANR issues a water quality certification under authority of the CWA, Section 401.

There are very few hydropower projects that are not subject to FERC jurisdiction. A license, or exemption, must be obtained for any hydropower project that:

- Is located on a navigable water of the United States; or
- Occupies lands of the United States; or
- Utilizes surplus water or waterpower from a government dam; or
- Is located on a body of water over which Congress has Commerce Clause jurisdiction (which is a waterway that runs eventually into a navigable waterway of the United States), AND project construction has occurred on or after August 26, 1935, AND the project affects the interests of interstate or foreign commerce (such as connection to an interstate transmission grid).

There are two ways to find out if a hydropower project requires a FERC license. You can either request an unofficial opinion from FERC staff (contact Henry Ecton at (202) 502-8768 or [henry.ecton@ferc.gov](mailto:henry.ecton@ferc.gov)), or you can receive a formal determination by filing a Declaration of Intention as permitted by Part 24 of FERC regulations (Title 18 CFR).

If a project is not subject to FERC jurisdiction, it would likely require one or more permits from the Vermont Public Service Board, including a certificate of public good pursuant to 30 V.S.A. Section 248 (siting of electric generation or transmission) and a dam order pursuant to 10 V.S.A. Chapter 43 (construction or alteration of a dam - note size threshold included in Chapter 43 Section 1082). The PSB has developed a *Citizen's Guide to the Public Service Board's Section 248 Process* that is available on-line at [http://www.state.vt.us/psb/document/Citizens\\_Guide\\_to\\_248.pdf](http://www.state.vt.us/psb/document/Citizens_Guide_to_248.pdf) The PSB Rules governing net metering projects (Rule 5.100) and Section 248 filing requirements (Rule 5.400) can be found at <http://www.state.vt.us/psb/rules/rules.stm>

#### **When should I contact ANR, and what will ANR's role be?**

You should contact ANR early in your investigation of a potential hydropower project. The Agency may be able to provide data useful for assessing whether a particular site is right for hydropower technology, as well as information about in-stream flow needs, fisheries, and other aquatic or terrestrial habitat issues.

It is also important to work with the ANR as you prepare your FERC application; in fact, coordination with ANR is required as part of FERC's licensing process. Among other things, ANR will help you scope studies for FERC so that the studies can also be used to support issuance of a "Section 401" water quality certification.

ANR participates in the FERC process in two ways:

- As a regulator, ANR issues permits and certifications. Although the FPA preempts state jurisdiction, ANR is responsible for issuing the certification required by the CWA. ANR typically issues the Section 401 water quality certification and, when necessary, stormwater construction permits. ANR's Section 401 certification review typically will also examine fish passage, habitat protection, and avoiding entrainment or impingement of fish at the water intake; and
- As a resource agency, ANR makes advisory comments as to FERC within the NEPA process. NEPA requires federal agencies to investigate the environmental impacts of their decisions by considering reasonable alternatives that would avoid any harmful environmental impacts, as well as giving the general public notice and allowing them to comment on the proposal.

## **What information will ANR need in order to issue a Section 401 Water Quality Certification?**

Your application for a water quality certification will need to be filed with the Agency as part of the process established by FERC for licensing hydropower facilities. Typically, the application is a simple letter requesting a certification with a copy of the draft or final FERC license application, including study reports as supporting documentation. Below is a summary of issues that typically require either quantitative or qualitative assessment as potential hydropower sites are evaluated for a Section 401 water quality certification issued by ANR. Some of the issues listed will require a formal scientific study; the need for and scope of specific studies will be determined on a case-by-case basis. ANR will assist in scoping such studies so that they can support both a FERC license application and issuance of the water quality certification. It is important to note that this “issues list” assumes projects are “run-of-river” and will take place at existing dams.

### **PROJECT DESCRIPTION.**

- Project site, including all land and water areas that will be affected by the project during construction and operation;
- Existing and proposed project infrastructure required to support the project, including powerhouses, dams, water conduits (penstock), transmission lines, water impoundments, roads, and other appurtenant works and structures that will be utilized, as well as new infrastructure that will be required to support the project, including:
  - Physical composition, dimensions, and general configuration of project;
  - Assessment of condition/structural integrity of existing structures;
  - Improvements/maintenance (including desilting) that will be required at existing infrastructure;
  - Physical composition, dimensions, and general configuration of new infrastructure that will be required;
  - Number, length, and location of any primary transmission lines; and
  - Existing project components with historic preservation concerns.
- “Practical” project turbine operating range (maximum and minimum in cfs);
- Describe any impoundment/reservoir water level management that will occur;
- Map(s) showing the location of the project, including existing and proposed project structures, with reference to local geographic features; and
- Projected socio-economic benefit of the project as may be needed for Clean Water Act anti-degradation review.

### **WATER QUALITY & AQUATIC BIOTA.**

- Existing water quality conditions, including applicable water quality standards and stream segment classification for the project impoundment and downstream waters;
- Existing biological communities;
- In-stream flows in the penstock-bypassed reach;
- Impact of the dam on riparian and in-stream habitat, stream-related erosion, and flood hazards  
(<http://dec.vermont.gov/watershed/rivers/river-corridor-and-floodplain-protection/geomorphic-assessment>);
- Impact on dissolved oxygen, water temperature, and turbidity;
- Accommodation of fish movement (upstream and downstream);

- Measures employed to avoid/minimize fish impingement and entrainment;
- Impact on riparian wetlands, riparian vegetation, and wildlife;
- Impact of water level management on aquatic biota;
- Provisions for public access and recreational use; and
- Impact on aesthetics.

Needs for additional or different information may arise based on project specific considerations and any unforeseen, unique circumstances. In addition, there are important post-licensing issues including: construction erosion prevention and sediment control; any special flow or water level management to facilitate construction; and impoundment desilting. Conditions are usually included in the Section 401 water quality certification allowing ANR review/approval for these activities after the license is issued.

Any developer should obtain information on the classification of the waters before proceeding too far. Some streams cannot be used for hydropower production (see Vermont Water Quality Standards Section 3-01(C), *Hydrology Criteria*). In addition projects may be required, under the CWA and Vermont Water Quality Standards, to complete an anti-degradation review to demonstrate that the hydropower project can be completed in a manner that maintains and protects existing water quality conditions.

**How long does this process typically take?**

The FERC licensing process includes a number of fixed timeframes for providing public notice and consultation that make it challenging to move through the process in less than three years. Although the water quality certification needs to be issued prior to an applicant receiving a license from FERC, ANR's review typically takes place wholly within the timeframes FERC has established for completing their own parallel review of application materials.