

## Act 165 Report:

A Report to the Vermont General Assembly on  
Progress toward an MOU Program for Expediting  
Development of Small and Micro Hydroelectric  
Projects

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*January 15, 2014*

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## Executive Summary

The purpose of this report is to inform the General Assembly of progress to date in carrying out Act 165, “An act relating to expediting development of small and micro hydroelectric projects.” Enacted in 2012, Act 165 directs the Commissioner of the Public Service Department (PSD), in consultation with the Secretary of the Agency of Natural Resources (ANR), to “seek to enter into a memorandum of understanding with the Federal Energy Regulatory Commission (FERC) for a program to expedite the procedures for FERC’s granting approval for projects in Vermont that constitute small conduit hydroelectric facilities and small hydroelectric power projects.” Act 165 instructs the Commissioner to, no later than January 15, 2014 and annually by each second January 15 thereafter, submit a written report to the General Assembly “detailing the process of the MOU program, including an identification of each hydroelectric project participating in the program.”

After passage of Act 165, the PSD, in consultation with ANR and also with the State Historic Preservation Office (SHPO) of the Agency of Commerce and Community Development (ACCD), met regularly to chart a pathway toward implementation of the Act. The “Interagency Hydro Team” (or “Team”) reviewed each agency’s statutory responsibilities in the hydropower permitting process, which is conducted at the federal level by the Federal Energy Regulatory Commission (FERC). The Team also held discussions with the Colorado Governor’s Energy Office, which had signed a memorandum of understanding (MOU) with FERC to expedite the permitting of conduit projects that was, in part, impetus for the creation of Act 165. In addition, the Team consulted with FERC to understand existing pathways for expediting permitting that exist in the Federal Power Act, as well as with a number of Vermont hydropower developers, to understand their experiences with the permitting process and also with other aspects of developing hydropower projects.

The Team learned from Colorado that its program was limited to conduit projects, which present a far greater opportunity in the West than the Northeast; that the key to the program was the availability of funding to hire an outside consultant to assist the developers in the program; and that the program went dormant after funding ran out. The team learned from FERC that the provisions in the FERC-Colorado MOU designed to “expedite” the process – from shortening timelines to eliminating consultation stages – could be otherwise accomplished in the absence of an MOU, under the existing provisions of the Federal Power Act and FERC regulations.

More important, from FERC’s perspective, was for developers to engage with FERC and with state and federal resource agencies early in a project, for developers to submit complete and thorough applications to FERC including providing evidence of adequate consultation, and for state resource agencies to better coordinate responses as well as to submit timely responses to FERC’s requests. Increased early engagement and thorough developer due diligence are ultimately pathways, according to FERC, to a coordinated communication from the State to FERC supporting the project and agreeing to waive certain consultation stages and shorten timeframes, which gives FERC the latitude to approve such time- and expense-trimming measures. It was made clear to the Team that there was no possibility of the State actually amending any of the statutory requirements of the Federal Power Act or any other relevant laws.

As a result the Team concluded that the best way to achieve the goal of Act 165 – to expedite the development of small hydropower projects in Vermont – was to provide greater assistance to developers early on in a project, to better coordinate communications to developers and to FERC, and to

identify projects that could gain support from the state resource agencies and communicate such support to FERC in order to expedite the permitting process. Therefore, the Team created an interagency MOU, which was fully executed by the PSD, ANR, and ACCD as of July 3, 2013. The MOU provides for such enhanced coordination, identifying and assisting developers of low-impact projects of high public value (such as those owned by public entities and those utilizing existing infrastructure), and, subject to available resources, proposes the following types of assistance:

- Designation of a point person at each agency who will be responsible for providing assistance to developers of low-impact hydropower projects.
- Coordination of interagency site visits for potential FERC applicants in order to assess potential projects and apprise them of issues that will need to be addressed in the application process.
- Provision of informational materials to assist hydropower developers.
- Coordination and continued engagement with FERC in this process to ensure state actions and policies will be useful in developing better applications and will be complementary to the FERC process.

At the same time the Team was investigating the feasibility and benefits to be gained from entering into an MOU with FERC, major changes to the FERC process for permitting conduit projects occurred with the passage by Congress of the Hydropower Regulatory Efficiency Act of 2013 (HREA). The HREA amended the “exemption”<sup>1</sup> process for conduit projects smaller than 5 megawatts (MW) that meet certain qualifying criteria such that they are now truly exempted from the licensing requirements of the Federal Power Act and must simply file a Notice of Intent. Other provisions of the HREA are discussed in Section 1.2 of this report.

The Team has taken preliminary steps to implement the MOU, and will proceed without delay should the General Assembly find the direction we have taken to be acceptable. We have created preliminary screening criteria to identify low-impact hydropower projects of high public value, as well as an intake form which will require developers to perform basic due diligence in order to qualify for such screening. Both documents are currently in draft form and are under review by the three agencies involved. Once the screening and intake forms are finalized, the PSD, as the central point of contact for developers,<sup>2</sup> will roll out a hydropower developer assistance website, containing general information, resources, and templates as well as more detailed guidance to assist with the screening phase, which, if passed, will entitle developers to enhanced assistance from the State.

To be clear, however, none of the agencies involved in the interagency MOU has either the resources or expertise to act as a developer’s consultant or engineer, nor would it be appropriate for the State to play this role. The goal of the State is to help developers understand the FERC permitting process and requirements and to remove any State-created barriers to this process. The onus will still be on participating developers to perform any required studies, which may still entail hiring consultants such as licensed professional engineers. If the State and developers can agree on studies and other steps that must be taken, the State will be poised to coordinate filing with FERC in support of waiving certain consultation stages and shortening timeframes. It is important to note, however, that other

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<sup>1</sup> In FERC terminology, an “exemption” is still a permit, for which a developer must file an application similar to a “license.” The major difference is that a license is only issued for a specified period of time, while an exemption, if issued, is essentially permanent.

<sup>2</sup> The PSD has not previously been involved in the hydropower permitting process and is assuming a new role, one which had previously been filled by ANR, by default.

stakeholders in the process, such as the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers, may not be amenable to such waivers or time condensing measures.

The PSD, ANR, and ACCD are hopeful that the General Assembly supports the direction the Team has taken. We are prepared to amend the program as lessons are learned and as best practices emerge. Additionally, should a State-FERC MOU still be desirable and promise added value (and especially if the contents as envisioned by the General Assembly are explicitly enumerated), the Team is prepared to pursue such an MOU in a timely manner. The Team continues to welcome input into the process and looks forward to discussions with the relevant Committees of the House and Senate this session and in our biennial reports hereafter.

# 1 Introduction

On May 14, 2012, Act 165 became effective. The main goal of the Act was to expedite development of small and micro hydroelectric projects, and the anticipated pathway for achieving that goal was the creation of a memorandum of understanding (MOU) between the State and the Federal Energy Regulatory Commission (FERC) to expedite procedures for granting approval to these types of projects. The Colorado Governor's Energy Office had recently implemented an MOU with FERC to expedite conduit projects, and the concept was to explore a similar agreement – but within the context of run-of-river hydropower projects in Vermont. The General Assembly charged the Public Service Department (PSD), in consultation with the Agency of Natural Resources (ANR), to seek to enter into the MOU.

The PSD began meeting with ANR to carry out their charge under Act 165 in the fall of 2012; the two bodies soon brought in the Agency of Commerce and Community Development's Division of Historic Preservation (SHPO), which has statutory responsibilities under the federal hydropower permitting process. The three agencies met nearly two dozen times since that first meeting, together as well as with FERC, the Colorado Governor's Energy Office, and Vermont hydropower developers.

In addition to the concept of a State-FERC MOU, a number of other barriers to and ideas for facilitating hydropower development in Vermont were explored. The agencies ultimately elected to enact an interagency MOU in lieu of a State-FERC MOU as the most effective way to assist hydropower developers, for reasons that will be explored below. The interagency MOU was fully executed in July of 2013.

The agencies are currently in the process of implementing the provisions of the interagency MOU and plan to implement appropriate resources and protocols in 2014 to assist hydropower developers. The agencies are poised to modify these provisions as appropriate. Should situations or evidence arise raising the value of an MOU with FERC beyond what is currently understood, the agencies also remain open to executing such an MOU.

## 1.1 Legislative charge

[Act 165](#) of the 2011-2012 biennium, "An act relating to expediting development of small and micro hydroelectric projects," directed the Commissioner of the PSD – in consultation with the Secretary of ANR – to seek to enter into an MOU with FERC for a program to expedite the procedures for FERC's granting approval for small hydroelectric projects in Vermont. Act 165 further directs the Commissioner in consultation with the Secretary to offer prescreening by the State of Vermont of projects participating in the MOU program.

The Act points to the existing State policy of promoting development and use of renewable energy projects, including hydroelectric projects, and the potential for additional capacity of anywhere from 25 megawatts (MW) to 434 MW (depending on the study referenced)<sup>3</sup>, as motivations to pursue hydropower development. It also references the length, cost, and extent of the process for obtaining FERC approval for hydroelectric projects, which does not necessarily vary in accordance with the size of the project, and ostensibly seeks through the implementation of a State-FERC MOU to relieve smaller

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<sup>3</sup> In 2006, the U.S. Department of Energy identified 1,291 potential sites with a combined capacity of [434 MW](#). In 2007, the Public Service Department identified 300 potential sites (out of 1,200 existing dams) with a combined capacity of more than [90 MW](#). Finally, in 2008, the Agency of Natural Resources identified 44 potential sites with a combined capacity of [25 MW](#), most of which are smaller than 5 MW.

projects of some of these requirements, based on the premise that they are less impactful, and the reality that they are not able to cost-effectively bear the expense of the FERC approval process, even the “exemption” process, which is still a formal process that requires study and consultation. Finally, the Act references the responsibility vested in ANR to conduct a science-based analysis of the impacts a hydroelectric project will have on water quality, fish and wildlife, and to certify that the project will meet water quality standards adopted under the Clean Water Act.

The impetus behind Act 165 was testimony from Vermont hydropower developers regarding the seeming disparity between the impacts of small and microhydroelectric projects and the burden of procuring approval from FERC, combined with the apparent success of an MOU implemented between the Colorado Governor’s Energy Office and FERC to “streamline and simplify the authorization of small-scale hydropower projects.” In Colorado’s case, the MOU applied exclusively to conduit projects, which take advantage of existing water bypasses through piping and canals for irrigation and municipal water supply/wastewater treatment purposes.

## 1.2 Relevant federal legislation

### **Hydropower Regulatory Efficiency Act of 2013**

The [Hydropower Regulatory Efficiency Act of 2013](#) (H.R. 267), one of the few significant pieces of legislation to be passed by Congress in 2013, was signed by President Obama on August 8, 2013. This Act had the immediate effect of simplifying the regulatory process for conduit hydropower projects, the same projects facilitated by the Colorado-FERC MOU. Specifically, the Act provides for the following:

- Directs FERC to explore a potential two-year licensing process for hydropower development at existing non-powered dams and closed-loop pumped storage projects. Brian Fitzgerald from ANR was invited to participate on a panel at the workshop; a recording of the proceedings is available at <http://ferc.capitolconnection.org/> under “October 22, 2013,” and Mr. Fitzgerald’s written follow-up comments of November 21, 2013 are available in Appendix A.
- Increases the size of projects at existing non-powered dams that may qualify for FERC “exemptions” from 5 MW to 10 MW.
- Exempts certain conduit hydropower facilities from the licensing requirements of the Federal Power Act.
- Directs the U.S. Department of Energy to study pumped storage project opportunities to support integration of intermittent renewables and to provide grid reliability benefits, and to study hydropower potential from existing conduits.
- Authorizes FERC to grant extensions of preliminary permits to developers to allow for continued site investigation and license preparation work for projects that are proceeding in good faith and with reasonable diligence.

The passage of the Act had an immediate beneficial impact for one Vermont project, the City of Barre’s 17 kW conduit project, which was one of the first “exclusions” granted under the [new conduit provisions](#). The Town of Hinesburg is currently exploring a conduit project, which would potentially be able to pursue the same approval pathway, as would any future Vermont conduit project smaller than 5 MW (it is difficult to foresee any projects anywhere close to that size).

## 2 Process

Upon the passage of Act 165, the PSD assigned staff to explore implementation; staff engaged the relevant peers at ANR as well as at SHPO, which plays a corollary role to ANR of fulfilling implementation of federal statute in the FERC permitting process (in this case, of the National Historic Preservation Act).

The individuals that comprise the Interagency Hydro Team, or “Team,” as of this writing include:

*Anne Margolis*, Renewable Energy Development Manager, Public Service Department

*Timothy Duggan*, Staff Attorney, Public Service Department

*Brian Fitzgerald*, Streamflow Protection Coordinator, Department of Environmental Conservation, Agency of Natural Resources (outgoing)

*Jeff Crocker*, Streamflow Protection Coordinator, Department of Environmental Conservation, Agency of Natural Resources (incoming)

*Eric Davis*, River Ecologist, Department of Environmental Conservation, Agency of Natural Resources

*Rod Wentworth*, Fisheries Biologist, Fish & Wildlife Department, Agency of Natural Resources

*Judith Ehrlich*, Director of Operations, Division for Historic Preservation, Agency of Commerce & Community Development

*Scott Dillon*, Survey Archaeologist, Division for Historic Preservation, Agency of Commerce & Community Development

*James Duggan*, Historic Preservation Review Coordinator, Division for Historic Preservation, Agency of Commerce & Community Development

The Team held nearly 20 meetings since the fall of 2012 to discuss pathways to implementation of Act 165. The Team meetings initially focused on achieving mutual understanding of each agency’s role in the hydropower licensing process (PSD has not been involved in the federal permitting of hydropower facilities), before shifting to exploration of ways to implement Act 165. As part of its due diligence, the Team held discussions with FERC, the Colorado Governor’s Energy Office, and multiple hydropower developers.

### 2.1 Review of the hydropower permitting process

After reviewing each agency’s role in the hydropower licensing process, the conversation shifted to exploring ways to implement Act 165. As a first step, the Team reviewed the licensing and exemption pathways for small hydro projects at FERC. Recently permitted small hydropower projects have generally used the Traditional Licensing Process (TLP), which has fewer pre-filing requirements, a more informal study development process, and does not require the formation of a collaborative workgroup – which are, variously, requirements of the other available processes (see FERC’s [process comparison matrix](#) for details). Regardless of the process used, ANR has offered to conduct initial project review, including a site visit, to advise developers of issues that will need to be addressed during the permitting process and provide an assessment of the project’s environmental feasibility.

FERC provides detailed flow charts and templates on their [Small/Low-Impact Hydropower website](#). On this site, developers and other interested parties may access the following:

- [Outline of FERC jurisdiction and authority, including a Declaration of Intention template, which is used to request a jurisdictional ruling from FERC](#)
- [Overview of types of FERC-jurisdictional hydropower categories: conduits, 10 MW exemptions, and licenses](#)
- [Database of existing projects and preliminary permits, with a locational search](#)
- [Description of off-limits sites, such as National Wild and Scenic Rivers and Wilderness Areas](#)



- [Dam Safety Program information](#)
- [Overview of Conduit, Exemption, and Licensing pathways as well as detailed instructions on Filing Preliminary Information, Consulting Stakeholders, Gathering Information, Preparing an Application, and Tips to Develop a Complete Application](#)
- [Discussion of what applicants can do to expedite the process](#), including:
  - Choosing a site where there will likely be few environmental concerns
  - Providing sufficient information in the application
  - [Conducting adequate consultation](#)
- [Discussion of what FERC can do to expedite the process](#):
  - Waive some pre-filing consultation requirements (with resource agency cooperation);
  - Combine environmental scoping with pre-filing consultation;
  - Combine public noticing requirements;
  - Shorten comment periods;
  - Coordinate with resource agencies to obtain their final terms and conditions before FERC issues an environmental assessment, instead of the customary preliminary and final versions
  - Use a single environmental document (opposed to using draft and final documents); and
  - Issue the order on the same day as the environmental assessment.
- [List of project licenses/exemptions issued in less than one year](#)

## 2.2 Discussions with FERC and the Colorado Governor's Energy Office

The Team held two calls with Robert Easton, Chief of the New England Branch of the Division of Hydropower Licensing. The first, on June 11, 2012, was to notify Mr. Easton and his colleague Shana Murray, Small Hydropower Coordinator at FERC and contact for the [FERC-Colorado MOU](#), of Act 165, obtain their counsel, and initiate steps leading toward fulfillment of Act 165's direction to the Commissioner of the PSD to initiate with FERC the process of negotiating any MOU by July 15, 2012.

FERC staff indicated that the major cause of delay in issuance of a FERC license or exemption to applicants is FERC's receipt of incomplete applications, along with inadequate state and federal resource agency consultation by applicants prior to filing. The result is additional time for FERC to request, receive, and review additional information from applicants and for the resource agencies to complete their reviews and develop comments.

According to Ms. Murray, the most important outcomes of the Colorado MOU were the increased communication between state agencies in Colorado regarding the conduit projects to which it applied, and FERC's enhanced early involvement with those same projects. Additionally, the State of Colorado hired a firm with hydropower engineering and licensing expertise to act as a consultant to applicants, helping those projects submit complete and thorough applications to FERC and engage in and properly document thorough consultation.

Mr. Easton suggested that if applicants contact FERC and submit draft applications as early as possible, and engage other stakeholders including state agencies from the start, there is no reason FERC cannot waive scoping and shorten deadlines for intervention requests, comments, and submission of terms and conditions from resource agencies, all [within the current framework of the Federal Power Act](#) and without the creation of any sort of MOU.

He indicated that the most valuable contributions from state agencies would be making applicants aware of FERC's small hydropower website and templates early on and encouraging them to contact FERC as soon as possible, as well as coordinating state agency review, assisting with stakeholder outreach, and sending FERC a letter supportive of the project and agreeing to waive second stage consultation (the idea being that the agencies would have been consulting with the project developer for some time prior to filing).

On June 28, 2012, Mr. Easton sent the Team a document entitled, *Possible Actions for Improving Processing of Hydroelectric Project Applications in Vermont* (see Appendix B). In summary, the actions Vermont can take consist of helping potential applicants select the correct FERC application process, making them aware of available resources before initial documents are filed with FERC, ensuring involvement of all interested stakeholders at the first step of pre-filing consultation, providing agency input and preliminary terms and conditions at the draft application stage, and filing timely materials.

FERC would, in turn, review early materials and provide guidance to the applicant, review draft applications and send the applicant a list of all potential deficiencies, and issue a combined application acceptance/Ready for Environmental Analysis (REA) notice.

More significantly, FERC suggests that if Vermont provides a joint agency filing that states:

- No additional studies or information are needed;
- The Vermont agencies support expedited processing;
- The Vermont agencies support waiving scoping, and/or;
- The Vermont agencies support shortening the deadlines for filing terms and conditions and interventions from 60 to 30 days,

In response, FERC could:

- Review the contents of the application, including the consultation record, and any support for expedited processing, and eliminate or shorten steps to allow expedited processing of the application, as appropriate.

On July 13, 2012, the PSD sent Mr. Easton a document entitled, *Proposal for a Process to Develop an MOU Between the State of Vermont and FERC to Streamline the Review of Low-Impact Hydropower Projects in Vermont* (see Appendix C).

On August 14, 2012, the Team held a call with Mr. Easton to review the *Proposal for a Process* document and to discuss FERC's *Possible Actions* list. FERC indicated it would be willing to enter into an MOU with Vermont, but that it could only go as far as Colorado's, and that there was nothing in the Colorado MOU that couldn't otherwise be done in the absence of an MOU, i.e., within the existing provisions of the Federal Power Act and FERC regulations.

In other words, nothing in the Colorado MOU amended actual law or practice of federal hydropower regulation. Rather, its major achievements were to enhance and formalize up-front communication with applicants, stakeholders, state agencies, and FERC; to assist developers by providing the services of a technical and permitting consultant; and coordinating interagency review and feedback in order to give FERC the information and assurances necessary in order for FERC to pursue a shortened timeline (none of which required the existence of an MOU).

The feedback from FERC served to confirm what the Team learned from Francisco Flores of the Colorado Governor’s Energy Office, who was the staff member responsible for implementing the [FERC-Colorado MOU](#). Mr. Flores clarified that the Colorado MOU relates exclusively to conduit projects,<sup>4</sup> which are much more prevalent in Colorado than in Vermont, given Colorado’s extensive system of irrigation canals (in Vermont, our conduit opportunities are generally limited to wastewater treatment systems and public water supplies (where there is an opportunity to replace pressure reduction valves with turbines that serve a similar function but capture the energy of the passing water).

Mr. Flores further confirmed that nothing in the MOU gives them any preference over other states, and that every provision in the MOU already exists in federal code (and that in reality, you don’t even need an MOU to accomplish the same things).

He explained that the core of Colorado’s program is to centralize the pre-application process (in Colorado, there are five separate resource agencies involved, whereas in Vermont there are just two, thanks to the umbrella organizational structure of ANR). Centralization of the process in Colorado, according to Mr. Flores, brought a number of efficiencies that weren’t previously occurring.

He also related that their program has been dependent upon their ability to retain a consultant on behalf of developers, hired with American Recovery and Reinvestment Act funds, who surveys potential applicants and collects information to get a sense of their project’s compliance with minimum requirements. If those requirements are met, the consultant sends the developers a much more comprehensive survey, which in turn advises them to retain their own consultant and to expend funds for feasibility studies. The State’s consultant sends compiled project information to the State’s five resource agencies and solicits feedback from those agencies that is compiled and sent to FERC, allowing FERC to proceed – if the agencies are supportive of doing so – with waiving first and second stage consultation and establishing deadlines for filing of responses.

Mr. Flores stated that the biggest lesson for him was discovering that there really was not the pent-up demand for projects that he had been expecting; in reality, developers either did not have the funding required to pursue the projects, or they weren’t really that interested in doing so. Nevertheless, they did manage to meet their goal of moving twenty conduit projects through the exemption process – before the Recovery Act funding for the contractor ran dry; since then, the program has been on hiatus. Mr. Flores estimated that if a state employee acted in lieu of the consultant, it would require up to 75 percent of a full-time position.

Since the Colorado MOU came into existence, one additional state-FERC MOU relating to land-based hydropower projects has been created: with [California](#). Discussions with FERC have revealed that the

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<sup>4</sup> The Code of Federal Regulations defines “conduit” as, “any tunnel, canal, pipeline, aqueduct, flume, ditch, or similar manmade water conveyance that is operated for the distribution of water for agricultural, municipal, or industrial consumption and not primarily for the generation of electricity. The term *not primarily for the generation of electricity* includes but is not limited to a conduit: (i) Which was built for the distribution of water for agricultural, municipal, or industrial consumption and is operated for such a purpose; and (ii) To which a hydroelectric facility has been or is proposed to be added.

California MOU was initiated to address a problem that does not exist in Vermont, namely, achieving better coordination between the federal National Environmental Policy Act (NEPA) review that is inherent to the FERC hydropower licensing process and the California Environmental Quality Act (CEQA), the corollary state-level process. Vermont does not have a process that is analogous to CEQA.

## 2.3 Discussions with Vermont developers

At various points in time over the past year and a half, the Team or individual Team members met with Vermont hydropower developers to learn about challenges they faced and lessons they had learned while developing their projects. Takeaways from these various meetings relevant to the implementation of Act 165 (and not including informal discussions) are summarized below.

### **Roundtables with Vermont Hydropower Developers**

The Team held two meetings with developers of recent hydropower projects in Vermont to learn more about the challenges and successes faced by these developers, and to better understand how we might facilitate successful outcomes for such projects in the future. A list of framing questions for the discussions was sent out in advance (see Appendix D). Some individuals who were unable to attend the in-person meetings returned written responses to the questions; others provided feedback in separate phone conversations.

The first meeting was held on November 4, 2013 and included James Perkins of Little Green Hydro and Lori Barg of Community Hydro. The primary lessons learned and recommendations conveyed by Mr. Perkins include:

- All action to facilitate micro-hydro projects is going to take place at the federal level, as evidenced by the recent easing of regulatory burdens for conduit projects as a result of the passage by Congress of the Hydropower Regulatory Efficiency Act.
- The primary state-level permitting work Little Green Hydro experiences is with obtaining § 401 water quality certifications from ANR. The minimum bypass flow requirements are derived from large, gaged rivers in Vermont, not the small, higher-elevation streams where their projects are usually sited. Case-by-case environmental and flow studies are not economically viable for 3 kW projects. Mr. Perkins recommends a new standard be developed for small watercourses, which can be applied without site-specific study. He suggested ANR review work done by The Nature Conservancy on a Presumptive Flow Standard, and that *de minimis* exclusions are developed.
- Little Green Hydro has engineered an automatic bypass feature that shuts off water diversion during low flow periods. It would like to work collaboratively with ANR to figure out how to meet or refine state standards given this new innovative feature.

Recommendations from Ms. Barg include:

- Revisit the Natural Resources Board's Stakeholder Hydropower Interested Parties Process (SHIPP) recommendations, none of which have been implemented (note also that the SHIPP report does not appear to be available online any longer). One of the recommendations, for instance, was to develop Vermont-specific flow standards, which should be possible given the existence of Vermont-specific data. Vermont should develop flow duration curves by physiographic regions.

- Develop a 401 water quality certification process that is more like the 3-4 month process used in England and Scotland (see Appendix E). The certification should consist of standard terms and conditions, and should be simplified, along the lines of the “1040EZ” tax form.
- Develop a programmatic agreement with SHPO to provide a box within which developers can work. The turnaround for approval under the programmatic agreement and the ANR standard terms and conditions should be 90 days.
- Vermont should strive to remove all of the subjective criteria in the § 401 determination, or modify them to make them objective. One such criterion is aesthetics.
- Community Hydro disagrees with the practice of filing a 401 in conjunction with a FERC license application; ideally, developers should be able to apply for and receive a 401 as a first step and as an entrée to FERC.
- If the process resulting from Act 165 is anything close to what has been, Ms. Barg will consider this process a failure.

The second meeting was held on December 5, 2013 and included Scott Johnson of the Waterville Planning Board, Bill Scully of CarbonZero, and Deb Sachs of EcoStrategies. The primary lessons learned and recommendations conveyed by Mr. Scully include:

- Expect the unexpected. He thought ANR would be the biggest hurdle, and while the process with ANR was lengthy and thorough, ANR actually ended up being the project’s biggest facilitator.
- The biggest challenge to Mr. Scully was finding good consultants to help him through the process. He explained that he had sought to obtain advice from non-regulatory people in the State, which for him led to wasted time and expense. Initial guidance from the State on “what to expect” would be helpful, as would being pointed in the direction of good consultants.
- Mr. Scully obtained a state Certificate of Public Good prior to obtaining his FERC license, and experienced frustration at the lack of experience in the regulatory and legal communities around permitting for this size and type of project. Increasing the threshold for the simplified permitting from 150 kW to 500 kW would have been helpful, as would more clarity from the utility (then CVPS) on interconnection requirements.
- One major impediment was finding financing. The project would not have been possible without VEDA’s early support and assistance. Mr. Scully found that every single bank in Bennington with the exception of one was unwilling to lend to his project, ostensibly because they are not seeing expected returns with their solar and wind investments. However, seven miles away in Massachusetts, banks routinely lend to hydropower projects. It’s also extremely difficult to find a hydropower project appraiser.
- It would be helpful to have a clear policy directive around hydropower from the Administration, which would be expressed as a coordinated position from Secretaries and Commissioners of different agencies.
- One challenge is that in order to assess a project, ANR, SHPO, and the PSB need a final design. That requires a developer to get a quote from turbine manufacturers, which is generally good for five years. However, in the course of the ANR/SHPO/PSB review processes, the design might have to change to meet conditions. There’s a chicken-and-egg issue with the iterative process; therefore, Mr. Scully recommends that some modicum of flexibility around specifics be baked into the State review processes (i.e. under a certain threshold of change, the developer wouldn’t have to refile permits or file permit amendments).

- Mr. Scully followed up after the meeting to say that according to the engineers with whom he is working (who do projects nationwide, including for Duke Energy), a grid system impact study anywhere else for a project of Vermont Tissue's scale would cost \$10,000, whereas in Vermont, the cost will be \$25,000-\$30,000. The Vermont requirements for system protection also far exceed what the engineers see elsewhere. They will be proposing a double trip and relay solution that sets up a redundancy and anti-islanding functions for much less expense than the conventional solutions preferred by utilities in Vermont.

Recommendations from Mr. Johnson include:

- Since the town planning commission was driving forward progress on the project with volunteer time and labor and minimal funding, they eventually hit their limit of knowledge and capacity and are now stalled, not knowing exactly what to do next or where to turn.
- Having someone to hand-hold them through the process, and having funds to complete the required feasibility work, is paramount. It would also be helpful if someone could point them to qualified experts and consultants and advise them as to what they might encounter in terms of permitting, study needs, engineering requirements, and costs. Peer groups of folks who have recently developed successful projects might be one pathway.
- It was helpful to work with the Lamoille County Planning Commission, especially in terms of understanding who to contact in state government and also in terms of finding funding. Feasibility funding from the Clean Energy Development Fund was key to their progress so far, as was pro bono assistance from their consultant.
- Mr. Johnson agreed with the need for a clear policy directive around hydropower from the State. He suggested that if the Governor and Secretaries/Commissioners could prioritize hydropower, philanthropic and other investment would follow.

Recommendations from Ms. Sachs include:

- Conduit project permitting has recently been radically simplified at FERC as a result of the Hydropower Regulatory Efficiency Act. This was very fortunate timing, as the past few years of feasibility study and work with the City of Barre led to the project being ready to submit its Notice of Intent to FERC as soon as the new conduit approval process was available. The project got "clearance" from FERC to proceed in 58 days. The ability to submit materials online at FERC was also immensely helpful. Ms. Sachs thought obtaining the FERC authorization would be the most difficult part of the process, but it ended up being really easy.
- The project would not have been doable without funding from the Clean Energy Development Fund.
- Conduit projects should be exempted from state permits.
- It would be helpful to understand how inter- and intra-agency coordination around hydropower happens in Vermont, especially between the permitting and the funding arms of the same agency.
- The State could potentially gather testimonials and data from operating conduit systems in the State to help financiers understand the economics.
- Ms. Sachs agreed with the need for forums or opportunities for information exchange amongst hydropower developers. This could be facilitated by the State, or Renewable Energy Vermont, the Vermont Energy and Climate Action Network, or Vermont Independent Power Producers Association (which could potentially create a "new developer" subchapter).

Additionally, we received written feedback from Dennis Candelora, who was unable to attend the meetings. His main challenge concerned interconnection issues; he found that disorganization at the utility level and multiple personnel changes throughout the project led to conflicting advice and information, and recommended future projects pursue and obtain accurate information on interconnection costs before proceeding any further. He involved ANR and SHPO early on with the project he was working on and this worked well for all involved.

#### Other Relevant Meetings and Site Visits

The Team (or individual members thereof) held several additional meetings to gain insight and/or assist hydropower developers. Below is a sampling:

- 10/10/12 with Chris Conover of New England Hydropower, a developer of hydropower projects using Archimedes screw technology, to learn more about their technology, applications, and interest in developing Vermont projects.
- 2/19/12 with James Perkins of Little Green Hydro to understand the micro-hydro technology he is developing, and how it can function to automatically shut off in times of low flow. Staff from the PSD visited the installation of a Little Green Hydro system on October 18, 2013.
- 8/20/13 with David Zayas of the National Hydropower Association to discuss Vermont's progress and thinking regarding an MOU with FERC.
- 9/23/13 with Jonathan and Jayne Chase to assist with resolving a communications equipment connection issue.
- 7/10/12 with Alan Panebaker of American Whitewater to discuss the group's interest in any potential MOU with FERC or related activities.
- 8/7/13 and 9/12/13 with Transcanada to help them navigate a federal/state jurisdictional question.
- 9/16/13 site visit and informational panel with the Town of Barton Hydropower Re-Examination Committee, which is looking at pursuing a hydropower project at one of the historical Crystal Lake impoundments. The Team issued a written follow-up on 10/14/13 to help the Committee further understand environmental and historical resource considerations they will need to explore and address.

### **3 Creation of an interagency MOU**

In response to the information gleaned from interagency discussions and conversations with FERC and Colorado, and testimony heard from developers during discussions of S. 148 (which became Act 165), the Team ultimately decided to pursue an interagency MOU in lieu of a State-FERC MOU (See Appendix F). Later developer discussions helped to confirm that the steps laid out in the MOU would be helpful to new hydropower developers, and also highlighted the many other areas where hydropower developers

could use assistance, some of which can be addressed by the State, and others of which will fall to different organizations, to various branches of government, or to developers themselves. The MOU was fully executed by the Commissioner of the PSD and the Secretaries of the Agencies of Natural Resources and Commerce & Community Development as of July 3, 2013.

### 3.1 MOU purpose

The essence of the MOU is that it:

- Describes the rationale for pursuing the MOU, including:
  - The passage of Act 165;
  - The relevant laws including the Federal Power Act, National Environmental Policy Act, Fish and Wildlife Coordination Act, Endangered Species Act, and National Historic Preservation Act;
  - The roles and responsibilities of FERC and the state resource agencies (ANR and SHPO); the State’s energy goals and various studies that have been performed to identify potential hydropower resources; and
  - The conclusions made by the participating agencies (the Team) that, “increasing state inter-agency cooperation and coordination in reviewing potential hydropower projects, as well as assisting developers of low-impact hydropower in understanding the hydropower permitting process at the state and federal levels, are the two most meaningful and potentially effective actions that can be undertaken at the state level to facilitate low-impact hydropower project development in the state.”
- Codifies the Terms of Agreement, as follows:
  - The Parties do hereby agree to work together to assist low-impact hydropower projects navigate the process at FERC for seeking a 5 MW [since increased by the Hydropower Regulatory Efficiency Act of 2013 to 10 MW] or conduit exemption, while maintaining the high level of protection afforded to cultural and natural resources by federal and state laws and regulations.
  - In doing so, the parties will focus on identifying and assisting those low-impact projects that have a significant public value, such as projects owned by public entities and projects utilizing existing infrastructure. Such assistance will be intended to aid FERC applicants in their development and submittal of complete applications to FERC. Such assistance will also intend to make the state certification component of the FERC application process as efficient and transparent as possible.
  - Subject to available resources, such assistance may include the following:
    - Designation of a point person at each agency who will be responsible for providing assistance to developers of low-impact hydropower projects.
    - Coordination of interagency site visits for potential FERC applicants in order to assess potential projects and apprise potential applicants of issues that will need to be addressed in the application process.
    - Provision of informational materials to assist hydropower developers.
    - Coordination and continued engagement with FERC in this process to ensure state actions and policies will be useful in developing better applications and will be complementary to the FERC process.



## 4 MOU Implementation

A key aspect of the MOU implementation is that PSD is poised to become the first point of contact for developers of new hydroelectric projects. This role has been played by ANR up to this point, by default. However, as a regulatory agency responsible for objective, science-based environmental review, ANR cannot also serve as an advocate for individual projects.

At the same time the MOU was under creation, the Team also began drafting corollary materials, which have evolved over the months into the draft Screening Criteria/Intake Form, which you will find in Appendix G.

### 4.1 Screening criteria/intake form

This document represents the Team's efforts to develop criteria to identify projects of "significant public value" as per the MOU, which will in turn receive "enhanced state agency assistance," and to create an initial list of screening questions for hydropower projects to help the state agencies identify projects meeting the threshold criteria and to help developers understand the basic information they will need to gather when first embarking on a hydropower project. The basis for the criteria was existing criteria ANR had developed for [performing an initial project review of hydropower proposals](#), as well as criteria that SHPO had developed for [evaluating the effects of proposed telecommunications facilities, transmission lines, and wind power facilities on historic resources](#). The rationale behind the criteria is that they will enable the State to separate projects that are truly low impact from those that are not, and facilitate those that have limited natural and cultural resource impacts.

This document is currently being reviewed at each agency; once it has full approval, it will be rolled out as part of the new process for assisting developers. The Team expects this document, and other elements of the process as it is currently envisioned, to evolve over time as the PSD assumes increasing responsibility for being the primary interface with potential hydropower projects and as lessons are learned and best practices emerge.

### 4.2 Other developer assistance measures

Other aspects of this new process include:

- Consolidation of hydropower project assistance materials on the PSD website, with the PSD acting as a first point of contact for developers;
- Enhanced availability of hydropower education, assistance, and template materials, including links to FERC's Small and Low-Impact Hydropower Program website and Vermont-specific guidance materials and checklists;
- The Screening Criteria and Intake Form, documents describing the enhanced state assistance that projects passing the screening will receive, and, potentially, information connecting new hydropower developers with those who have recently completed successful projects.

## 5 Next Steps

Should the General Assembly concur with the direction with the Team has taken, we are prepared to proceed with finalizing the Screening Criteria and Intake form and fleshing out the developer assistance tools and protocols. The preference of the team would be to proceed with the steps laid out in the Interagency MOU, not as a pilot but as an actual program, subject to amendment as necessary over time.

There is no doubt that it can be difficult to initiate and develop a hydropower project in the U.S., for a number of reasons, including: engineering challenges (including grid interconnection), construction costs, necessary environmental mitigation, market factors, financing, and permitting. Project initiation is complicated by the permitting process, which is conducted by the FERC with multiple state agency participation and is subject to the many requirements of the Federal Power Act and other federal and state statutes. These statutes are designed to protect the public trust waters and cultural resources of the U.S. and of State – values Vermonters hold dear, alongside support for development of renewable energy.

Neither FERC nor the State is in the position to rewrite the Federal Power Act, nor would it be appropriate to do so in an effort to simplify a specific permitting process. However, the work of the Team has clearly demonstrated that it is possible for the State to help developers understand the federal permitting process, be aware of State resource agency concerns and potential solutions, and recognize deficiencies in permit applications and stakeholder consultation requirements that could lead to license or exemption processing delays at FERC.

In addition, with a realistic understanding of staffing and resource constraints, the State can also coordinate the activities of multiple agencies, conduct coordinated site visits, and work to consolidate and file timely comments in order to facilitate the process and potentially shorten timeframes under the existing provisions of the Federal Power Act. We look forward to continued dialog with developers and stakeholders and with the General Assembly to understand how to best advance high value and low impact hydropower projects in Vermont.

## **6 Appendices**

- 6.1 Appendix A: ANR Comments to FERC on a Two-Year Licensing Process**
- 6.2 Appendix B: FERC's list of Possible Actions to Improve Processing of Hydroelectric Project Applications in Vermont**
- 6.3 Appendix C: VT's Memo to FERC on a Proposal for a Process to Develop an MOU Between the State of Vermont and FERC to Streamline the Review of Low-Impact Hydropower Projects in Vermont**
- 6.4 Appendix D: List of Framing Questions for Vermont Hydropower Developers**
- 6.5 Appendix E: UK Hydropower Permitting Process Flow Chart from Lori Barg**
- 6.6 Appendix F: Vermont Interagency Hydropower MOU**
- 6.7 Appendix G: Draft Intake Form/Screening Criteria**
- 6.8 Appendix H: List of Hydropower Projects in VT**

FILED ELECTRONICALLY

November 21, 2013

Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, DC 20426

RE: Hydropower Regulatory Efficiency Act of 2013  
Docket No. AD13-9-0000

Dear Secretary Bose:

The Vermont Agency of Natural Resources offers the following comments on the feasibility of developing a two-year hydropower licensing process. We participated on the workshop panel convened by the Commission on October 22, and addressed several points at that time, but there are a few other issues that we believe should be included in the written record. Please note that these comments pertain to hydropower development at non-powered dams; we have no experience with closed-loop pumped storage projects.

A key point for this discussion is that hydropower projects, unlike other types of energy development, involve use of public waters, which are public trust resources. FERC licenses provide for use of those resources for 30-50 years, and exemptions authorize that use forever. It is important for the process leading up to a license or exemption be appropriately rigorous to ensure that the public trust is protected. In other words, thoroughness and thoughtfulness are more important than speed.

Consequently, any new licensing process must assure that the level of natural and cultural resource protection is as high as that achieved through the existing processes. To achieve that objective, studies will be needed at many projects and sufficient time must be built in to allow for study development and execution, and evaluation of the results. Another factor critical to maintaining a high level of resource protection is preservation of the role of resource agencies in the process, with reasonable timeframes to review information filed by the applicant and develop comments, recommendations and conditions. Finally, the process must recognize state authority under Section 401 of the Clean Water Act to review project impacts and develop certification conditions that will be included in the FERC license.

While these essential elements must be maintained, the licensing process should be designed so that well-considered projects with limited resource issues can move through the process as efficiently as possible. We believe that existing FERC regulations have the flexibility to allow that possibility by eliminating certain steps that may not be necessary for a particular project and compressing certain filing deadlines. However, a shortened regulatory process is only possible if applicants develop sufficient information early in the process so that all state and federal agencies have the facts they need to make timely decisions. The burden

is on the applicant to provide the information necessary for the agencies to make timely, fact-based decisions.

Thank you very much for the opportunity to participate in the October 22 workshop and for considering these comments.

Very truly yours,

A handwritten signature in black ink, appearing to read "B. Fitzgerald". The signature is stylized and cursive.

Brian T. Fitzgerald  
Streamflow Protection Coordinator

## **Possible Actions for Improving Processing of Hydroelectric Project Applications in Vermont**

The list below describes actions that Vermont and FERC could undertake to assist developers preparing FERC applications and enable expedited processing of applications. The list of actions was primarily prepared to address small/low-impact hydroelectric projects. Some of the actions described below may not be feasible for larger, complex projects that involve substantial new construction or include highly controversial issues.

In general, the actions are grouped based on timing and listed in the order they would occur during the preparation of a FERC application.

### Pre-ICD or PAD

During this stage, Vermont and FERC could undertake several actions that would help to ensure a potential applicant selects the correct process (exemption vs. license) and is aware of available resources for preparing an application *before* it distributes an Initial Consultation document (ICD) for an exemption or files a Notice of Intent (NOI) and Preliminary Application Document (PAD) for a license.

To accomplish this, Vermont could:

1. Provide the applicant with a list of all of the state agencies that will need to be consulted during preparation of the application and any federal agencies, local agencies, tribes, or non-governmental entities that should be consulted during preparation of the application,
2. Provide the applicant with FERC contact information (Bob Easton – (202) 502-6045; robert.easton@ferc.gov),
3. Notify FERC (Bob Easton – (202) 502-6045; robert.easton@ferc.gov) about the potential project and provide FERC with the applicant’s contact information,
4. Direct the applicant to the FERC “Small/Low-Impact Hydro” website (<http://www.ferc.gov/industries/hydropower/gen-info/licensing/small-low-impact.asp>) and encourage the applicant to use and follow the consultation checklist and templates available for the ICD or NOI/PAD, notices, and application,
5. For Exemptions - encourage the applicant to contact FERC and get a preliminary review of the project (property interests and project design) to determine if it may qualify for a small hydroelectric exemption, and
6. For Licenses – work with the applicant to determine if the available information and anticipated level of controversy warrant using the traditional licensing process (TLP) to prepare the application.

In response, FERC could:

- Upon request, review project information (property interests and project design) to determine if the project may qualify for an exemption.

First Stage of Consultation: After the ICD is distributed or the NOI/PAD is filed

To avoid over-looking significant issues or having significant issues pop-up late in the process, it is important to have all of the interested stakeholders engaged at the first step of pre-filing consultation.

To ensure this, Vermont could:

7. Encourage all of the entities identified in step 1 to attend the joint meeting and site visit,
8. File joint<sup>1</sup> Vermont agency comments on the ICD/PAD and the need for additional information or studies within 60 days of the joint meeting, and
9. File joint preliminary terms and conditions, if no studies or information are needed.

Second Stage of Consultation: Draft Application review

During this stage, the applicant is required to distribute the draft application to the resource agencies and tribes for review. Agency input on the draft application helps to ensure that the application is comprehensive and addresses all issues. Additionally, agencies can provide preliminary terms and conditions (when possible) at this stage which allow the applicant to address these measures in the final license application.

While the applicant is not required to file the draft application with FERC during second stage consultation, applicants often request that FERC conduct a courtesy review of any draft application and identify possible deficiencies and additional information needs. This review allows the applicant to address application deficiencies and FERC information needs before filing the final application which helps to avoid delays that would occur if these issues were not identified until the after the final application is filed.

To improve second stage consultation, Vermont could:

10. File joint agency comments on the draft application,
11. File preliminary (or final) terms and conditions as appropriate, including section 30(c) conditions (exemptions), section 10(j) recommendations

<sup>1</sup> Filing joint agency comments helps to ensure coordination among the state agencies and reduce conflicts among the state agency recommendations that can cause delays later in the process.

(licenses), water quality certification conditions, and section 106 determinations.

12. Encourage applicants to file the draft application with FERC for a courtesy review.

In response, FERC could:

- Upon request, conduct a review of the draft application and send the applicant a list of all potential deficiencies and additional information needs.

### Third Stage of Consultation: Final Application filed

When the final application is filed, FERC will issue a notice establishing a preliminary schedule for processing the application. This schedule will generally follow the timing required by the Commission's regulations; however, in instances where thorough pre-filing consultation has occurred or there is support waiving or shortening steps, FERC can modify the schedule to allow for expedited processing of the application.

To support expedited processing of applications, Vermont could provide a joint agency filing that states:

13. No additional studies or information are needed,
14. The Vermont agencies support expedited processing,
15. The Vermont agencies support waiving scoping, and/or
16. The Vermont agencies support shortening the deadlines for filing terms and conditions and interventions from 60 to 30 days.

In response, FERC could:

- Review the contents of the application, including the consultation record, and any support for expedited processing, and eliminate or shorten steps to allow expedited processing of the application, as appropriate.

### Application Acceptance and Ready for Environmental Analysis (REA) Notice

In general, expedited processing will result in FERC issuing a combined acceptance/REA notice. This notice will solicit interventions and terms and conditions and may include shortened filing deadlines and waiving scoping, as appropriate. To avoid delays during preparation of the environmental assessment or a FERC order, all final terms and conditions, including water quality certification conditions and any section 106 determinations, should be in the Commission's record by the end of the deadlines established in the combined acceptance/REA notice.

To help avoid potential delays, the Vermont agencies could file or issue the following materials by the deadline established in the acceptance/REA notice:



17. Final section 30(c) conditions for exemptions,
18. Section 10(j) recommendations for licenses,
19. The state historic preservation officer's determination of effects on historic properties, and
20. The section 401 water quality certification.



**State of Vermont**  
**Department of Public Service**  
 112 State Street  
 Montpelier, VT 05620-2601  
<http://www.publicservice.vermont.gov>

[phone] 802-828-2811  
 [fax] 802-828-2342  
 [tty] 800-734-8390

July 13, 2012

Mr. Robert Easton, Chief  
 New England Branch  
 Division of Hydropower Licensing  
 Federal Energy Regulatory Commission  
 888 1<sup>st</sup> St., NE, Mail Code PJ-12.3  
 Washington, DC 20426

Dear Bob,

Please accept the following *Proposal for a Process to Develop an MOU Between the State of Vermont and FERC to Streamline the Review of Low-Impact Hydropower Projects in Vermont*. This memo proposes the first draft of a process for conceiving of and initiating said MOU; all the steps outlined below are negotiable, and we welcome your feedback.

**Proposal:**

S. 148, a.k.a. Act 165 (An act relating to expediting development of small and micro hydroelectric projects), which was passed by the Vermont General Assembly in the 2011-2012 legislative session, became effective on May 14, 2012 ([www.leg.state.vt.us/docs/2012/Acts/ACT165.pdf](http://www.leg.state.vt.us/docs/2012/Acts/ACT165.pdf)). It directs the Commissioner of the Public Service Department, in consultation with the Secretary of the Agency of Natural Resources, to seek to enter into a Memorandum of Understanding (MOU) with the Federal Energy Regulatory Commission (FERC) for a program to expedite the procedures for FERC's granting of approvals for projects in Vermont that constitute small conduit hydroelectric facilities, small hydroelectric power projects, and, possibly, minor water projects (as defined by 18 C.F.R. § 4.30). In expediting project review, state goals include preservation of appropriate environmental protections and inclusion of a public process mechanism for these projects. Specifically, by July 15, 2012, the Commissioner is directed to initiate with FERC the process of negotiating this MOU. We propose the following steps in a process for negotiating this MOU:

**Stage 1: Planning**

1. Identify agencies that will be parties to MOU negotiation process, including point people and description of their existing roles in the hydropower licensing process:



- a. Federal Regulatory Energy Commission (FERC)
  - b. Vermont Public Service Department (PSD)
  - c. Vermont Agency of Natural Resources (ANR)
    - i. Determine if ANR will be a formal signatory to VT-FERC MOU
    - ii. Determine if VT inter-agency MOU is necessary/prudent
  - d. State Historic Preservation Office (SHPO)
    - i. Determine if SHPO will be a formal signatory to VT-FERC MOU
    - ii. Determine if VT inter-agency MOU is necessary/prudent
2. Identify other state and national agencies and organizations (and their point people) that the parties may wish to consult with early regarding the MOU contents:
- a. US Fish & Wildlife Service
  - b. US Army Corps of Engineers
  - c. Colorado Governor's Energy Office (GEO)
  - d. Oregon Department of Energy (ODOE)
  - e. Hydropower Reform Coalition
  - f. American Rivers
  - g. American Whitewater
  - h. Trout Unlimited
  - i. VT Public Service Board
  - j. VT Natural Resources Board
  - k. Vermont River Conservancy
  - l. Renewable Energy Vermont
  - m. Vermont Natural Resources Council
  - n. Vermont Energy Partnership
  - o. Vermont Public Power Supply Authority
  - p. VT Utilities
  - q. Conservation Law Foundation
  - r. Connecticut River Watershed Council
  - s. Others
3. Internal brainstorming by parties
- a. Timeline
  - b. Party goals and objectives w/r/t MOU
  - c. Services/expertise party is able to provide
    - i. Definition of existing hydropower permitting processes/procedures
    - ii. Identification of potential processes/procedures enabled by MOU
  - d. Services/expertise party seeks from other parties
  - e. Identification of "sticking points" in the current processes/procedures for hydropower permitting at the state and the federal level

- f. Identification of process/procedure “wish list” of each party as well as necessary elements of MOU to each party
  - g. Identification of hydropower permitting processes/procedures that could potentially be expedited/eliminated by MOU, including whether the MOU will cover licensed projects
4. Define common goals and objectives of MOU
- a. Identification of existing studies assessing hydropower potential in VT
  - b. Outline current permitting process and procedures, with identification of steps that could potentially be expedited/eliminated by MOU (as well as those steps that are fixed in scope/timeframe). Potentially include a flow chart showing which agency is responsible for what, and where other parties interact with the process.
  - c. Outline and detail formal and informal steps – including a state pre-screening process and state-level review of applications for completeness and/or compliance – that could be taken by parties to expedite permitting process/procedures (also develop comparative timelines). Again, potentially include a flow chart reflecting new program proposal.
  - d. Should a pre-screening process to “adopt” a project into the MOU process (aka the “state facilitation process”) be recommended, define the criteria that will be used to determine a project’s eligibility for this process, along with a timeline for rolling out the process (ideally, we can roll out the pre-screening process as soon as the MOU is in force)
  - e. Determine capacity of parties to undertake actions to expedite process/procedures (including staff/funding needs and potential for meeting those needs with available or potentially available resources, including the potential for an applicant fee)
  - f. Define minimally acceptable, ideal, and realistic objectives, in terms of measurable outcomes from implementation of an MOU (number of queries, number of projects accepted into MOU process, number of draft applications to FERC, number of exemptions issued, etc.)
  - g. Outline a project review process that will enable achievement of ideal objectives, but that – given factors outside parties’ control – will also allow for demonstration of achievement of minimally acceptable objectives
  - h. Determine non-process/procedure elements that should be included in MOU, based on party objectives, lessons learned from Colorado, and identification of informal steps parties can take to expedite review of projects
5. Set timeline and milestones
- a. Set recurring meetings between parties with outline of objectives for each meeting
  - b. Determine if/when in-person meetings might be appropriate/helpful

- c. Determine if/when stakeholder consultation and/or a public comment period might be appropriate/helpful
- d. Identify major milestones – signing of MOU, implementation of process (conception to completion) on first project, mid-MOU reassessment, first report to Legislature, lessons learned report upon completion of five projects, etc.

## **Stage 2: Negotiations and Implementation**

1. Parties at staff level of PSD, ANR, SHPO, and FERC draft document listing the essential elements of an MOU
2. Parties review outcomes from Stage 1 and draft MOU, based on fleshing out content and details of agreed-upon essential elements. Vermont staff present draft MOU, including project review process and other elements, for submission to PSD Commissioner and ANR Secretary (and potentially State Historic Preservation Office).
3. Commissioner and Secretary comment; after revisions made, Commissioner and Secretary submit revised draft to Chairman of FERC for FERC's review and comment
4. FERC's comments reviewed by Commissioner and Secretary and either incorporated or negotiated further (potentially in person)
5. Commissioner and Secretary draft final MOU and submit electronically to legislative council for distribution to members of Vermont House Committee on Fish, Wildlife and Water Resources as well as Senate Committee on Natural Resources and Energy
6. Commissioner & Secretary (and potentially State Historic Preservation Office) as well as FERC sign MOU

I hope that we have captured all of the essential steps and very much look forward to your input and advice, in light of your experience with these projects and with the implementation of a similar program with the Colorado Governor's Energy Office. Thank you in advance for your time and assistance.

Sincerely,



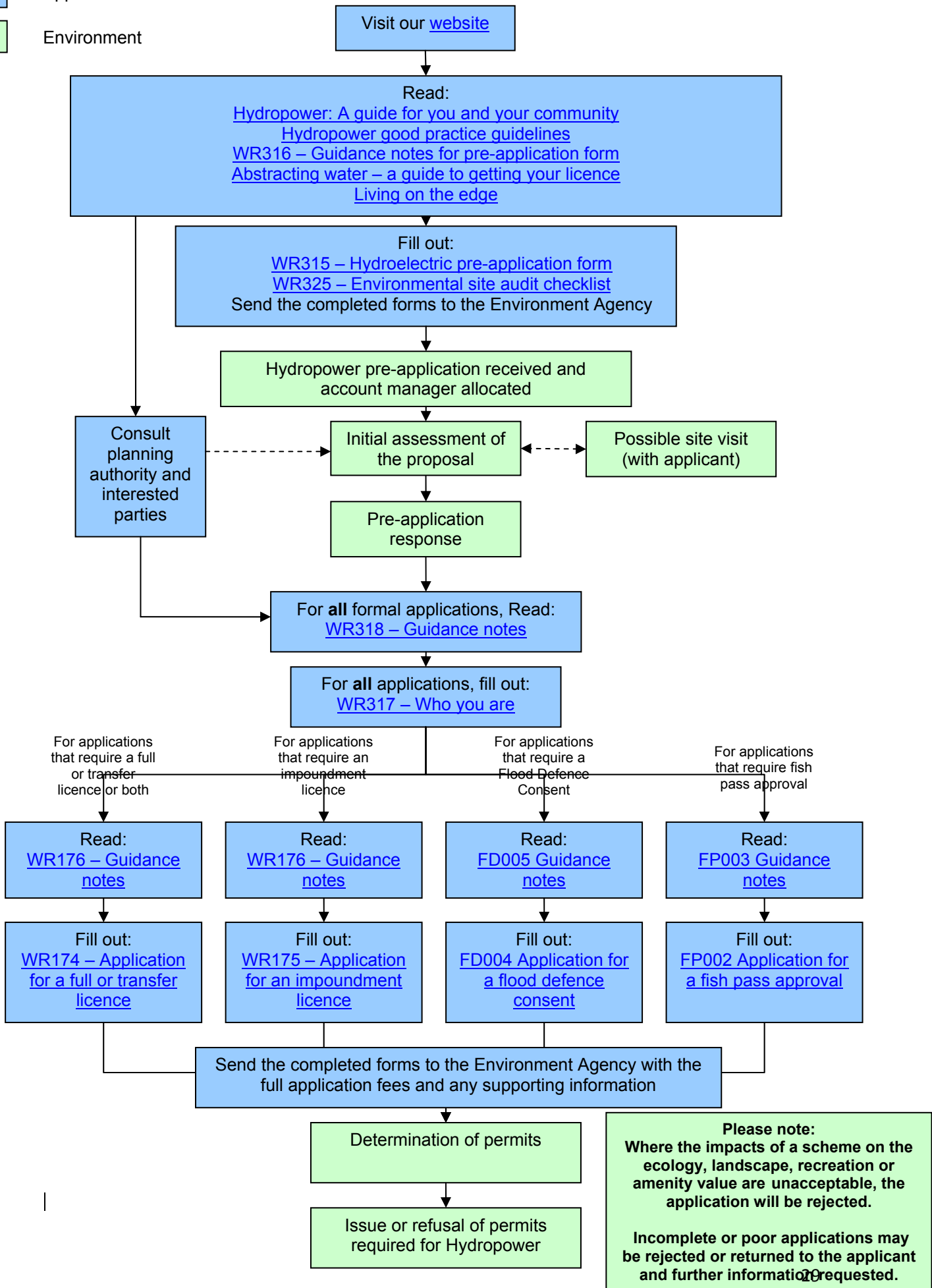
Anne Margolis  
Renewable Energy Development Manager  
Vermont Department of Public Service  
112 State Street  
Montpelier, VT 05620-2601  
(802) 828- 3058  
anne.margolis@state.vt.us

## Framing questions for Vermont hydropower discussions

1. Tell us a little bit about your project (capacity, number of units, mode of operation, anticipated generation, etc.)
2. Who was involved in the project (developer, partners, etc.)?
3. Did you use consultants? Would you recommend any of them to future project developers?
4. How did you select your project site and determine the project's viability?
5. What kind of FERC process did you use – license or exemption? And how did you make that decision?
6. What state agencies were involved in your project, and when did they become involved?
7. What federal agencies and/or other stakeholders were involved in your project, and when did they become involved?
8. Did you get an initial project review from ANR, and was it helpful?
9. What studies and analysis did you perform for your project?
10. How long did the pre-FERC filing part of your project take? Post-filing?
11. What challenges did you face in the pre-filing process? Post-filing?
12. What was the most significant challenge you encountered?
13. What kind of information would it have been helpful for you to have prior to embarking on your project?
14. In hindsight, what would you have done the same way, and what would you do differently?
15. What screening would you use for determining if a future project would be technically and economically viable?
16. Is increased state agency coordination or other action potentially helpful to future hydropower project developers?
17. What would you advise someone who wanted to develop a hydropower project in Vermont?

**Hydropower - our environmental permit application process**

Applicant  
 Environment



## MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (MOU) is entered into by and among the Vermont Public Service Department (PSD), the Vermont Agency of Natural Resources (ANR), and the Vermont Agency of Commerce and Community Development, Division for Historic Preservation (ACCD), (collectively referred to hereinafter as “the Parties”).

### **Purpose/Rationale for Agreement:**

1. Act 165 of the 2011-2012 Vermont General Assembly directs the Commissioner of the Vermont Public Service Department (PSD), in consultation with the Secretary of the Vermont Agency of Natural Resources (ANR), to seek to enter into an MOU with the Federal Energy Regulatory Commission (FERC) for a program to expedite the procedures for FERC’s granting of approvals for hydropower projects in Vermont that constitute small conduit hydroelectric facilities, small hydroelectric power projects, and, possibly, minor water projects (as defined by 18 C.F.R. § 4.30).
2. In the Fall of 2012, staff from PSD and ANR began discussions on how to implement Act 165. Because of the significant role played by the ACCD in the hydroelectric licensing process, staff from ACCD was also included in these discussions.
3. FERC has responsibility for issuing hydropower licenses under Part I of the Federal Power Act, 16 U.S.C. §§ 791a *et seq.*, for non-federal hydropower projects. This licensing authority includes two exemptions from the licensing provisions of Part I of the Federal Power Act – one for small conduit hydroelectric facilities (conduit exemption) and one for small hydroelectric projects (5 MW exemption). In issuing licenses and exemptions, FERC has responsibilities under the National Environmental Policy Act of 1969, as amended, 42 U.S.C. §§ 4321 *et seq.*; Fish and Wildlife Coordination Act of 1934, as amended, 16 U.S.C. §§ 661 *et seq.*; Endangered Species Act of 1973, as amended, 16 U.S.C. §§ 1531 *et seq.*; and Section 106 of the National Historic Preservation Act of 1966, as amended, 16 U.S.C. §§ 470f *et seq.*; and other relevant environmental and cultural protection statutes.
4. FERC has regulatory authority over dam safety under the Federal Power Act, as amended, 16 U.S.C. §§ 792-828C.
5. In implementing its licensing responsibilities, FERC must consider the recommendations of state resource agencies, i.e., those agencies exercising administration over flood control, navigation, irrigation, recreation, and cultural and other relevant resources of the state in which the project is located per 16 U.S.C. § 803(a).
6. In Vermont, ANR and ACCD are state resource agencies that are regularly called upon to make recommendations relied on by FERC in implementing its licensing responsibilities.
  - a. ANR exercises administration over public waters and fish and wildlife pursuant to Title 10 (Conservation and Development) and Title 29, Chapter 11 (Management of Lakes and Ponds) of Vermont Statutes Annotated. Further, Section 401 of the Clean Water Act, 33 U.S.C. § 1341, provides that a federal license or permit to conduct any activity that may result into a discharge into waters of the United States cannot be issued until the state



- certifies that the activity conforms with Sections 301, 302, 303, 306 and 307 of the Clean Water Act. Under 10 V.S.A. § 1004, ANR is the state certifying agency.
- b. ACCD exercises administration over historic and archaeological resources pursuant to Title 22 of Vermont Statutes Annotated. ACCD also implements section 106 of the National Historic Preservation Act for Vermont, which requires Federal agencies to take into account the effects of their undertakings on historic and archaeological properties.
7. Vermont studies have identified a range of developable hydropower sites and generation potential in Vermont.
    - a. In 2006, the federal Department of Energy identified 1,291 potential sites with a combined capacity of 434 MW.
    - b. In 2007, the Vermont Public Service Department identified 300 potential sites (out of 1,200 existing dams) with a combined capacity of more than 90 MW.
    - c. In 2008, the Vermont Agency of Natural Resources identified 44 potential sites with a combined capacity of 25 MW, most of which are smaller than 5 MW.
  8. These projects have the potential to contribute to Vermont's renewable energy mix, to help meet Vermont's Comprehensive Energy Plan goal of 90% renewable energy across all energy sectors by 2050, and to create related business opportunities while reducing greenhouse gas emissions that contribute to climate change. In addition, they would contribute to meeting the following statutory goals:
    - a. By 2022: 127.5 MW of new *in-state* renewable *electric* generation contracts provided through the Standard Offer program of SPEED (30 V.S.A. § 8005a(c))
    - b. By 2025: 25% of all energy from *in-state* renewables (10 V.S.A. § 579(a))
    - c. By 2028: 50% reduction in greenhouse gas emissions; 75% by 2050 (10 V.S.A. § 578(a))
    - d. By 2032: 75% renewables in electric sales (30 V.S.A. § 8005(d)(4)(A))
  9. The Parties, in seeking to implement Act 165, and after consultation with FERC, have concluded that increasing state inter-agency cooperation and coordination in reviewing potential hydropower projects, as well as assisting developers of low-impact hydropower in understanding the hydropower permitting process at the state and federal levels, are the two most meaningful and potentially effective actions that can be undertaken at the state level to facilitate low-impact hydropower project development in the state.

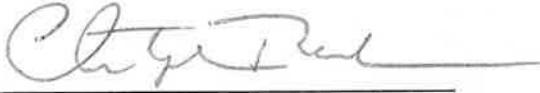
**Terms of Agreement:**

10. The Parties do hereby agree to work together to assist low-impact hydropower projects navigate the process at FERC for seeking a 5 MW or conduit exemption, while maintaining the high level of protection afforded to natural and cultural resources by federal and state laws and regulations. In doing so, the Parties will focus on identifying and assisting those low-impact projects that have a significant public value, such as projects owned by public entities and projects utilizing existing infrastructure. Such assistance will be intended to aid FERC applicants in their development and submittal of complete applications to FERC. Such assistance will also intend to make the state certification component of the FERC application process as efficient

and transparent as possible. Subject to available resources, such assistance may include the following:

- a. Designation of a point person at each agency who will be responsible for providing assistance to developers of low-impact hydropower projects.
- b. Coordination of interagency site visits for potential FERC applicants in order to assess potential projects and apprise potential applicants of issues that will need to be addressed in the application process.
- c. Provision of informational materials to assist hydropower developers.
- d. Coordination and continued engagement with FERC in this process to ensure state actions and policies will be useful in developing better applications and will be complementary to the FERC process.

**On behalf of the Vermont Public Service Department**



Commissioner Christopher Recchia

6/27/30

Date

**On behalf of the Vermont Agency of Natural Resources**

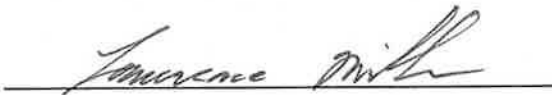


Secretary Deb Markowitz

7-3-13

Date

**On behalf of the Vermont Agency of Commerce & Community Development**



Secretary Lawrence Miller

7-3-13

Date

Witness: Judith W. Ehrlich

# VT Low-Impact Hydropower Screening

The Vermont Agency of Natural Resources, Vermont Agency of Commerce and Community Development, and Vermont Public Service Department coordinate to assist developers with understanding the Federal Energy Regulatory Commission (FERC) hydropower permitting process and federal and state resource protection regulations that are part of that process. These state agencies will assist developers of low-impact hydropower projects that do not propose new dams and that protect natural and historic resources by organizing an interagency site visit to identify potential historic and natural resource issues.

To qualify for enhanced state agency assistance, a project must meet the following criteria:

- Will qualify for a FERC 10 MW exemption<sup>1</sup>
- Will be located at an existing dam, **or** project will not require a dam or other impoundment
- Will not change the impoundment elevation
- Will be operated as run of river<sup>2</sup>
- Proposed bypass flows will be:
  - a. Consistent with ANR hydrologic standards<sup>3</sup>:

Season	Period	Median Flow Standard <sup>4</sup>	Default (cfs/mi <sup>2</sup> )
Fall/winter	Oct 1 – Mar 31	February	1.0
Spring	Apr 1 – May 31	April/May	4.0
Summer	June 1 – Sep 30	August	0.5

OR

<sup>1</sup> See definition at <http://www.ferc.gov/industries/hydropower/gen-info/licensing/small-low-impact/get-started/exemp-licens/project-comparison.asp>

<sup>2</sup> A true run-of-river project is one which does not operate out of storage and, therefore, does not artificially regulate streamflows below the project's tailrace. Outflow from the project is equal to inflow to the project's impoundment on an instantaneous basis. The flow regime below the project is essentially the river's natural regime, except in special circumstances, such as following the reinstallation of flashboards and project shutdowns. Under those circumstances, a change in storage contents is necessary, and outflow is reduced below inflow for a period.

<sup>3</sup> The standards are summarized in the table. Reference for further detail: [http://www.anr.state.vt.us/dec/waterq/rivers/docs/rv\\_flowprocedure.pdf](http://www.anr.state.vt.us/dec/waterq/rivers/docs/rv_flowprocedure.pdf)  
[www.fws.gov/newengland/pdfs/Flowpolicy.pdf](http://www.fws.gov/newengland/pdfs/Flowpolicy.pdf)

<sup>4</sup> Application of the fall/winter and spring period flows for spawning and incubation will be determined by the VT Dept. of Fish & Wildlife site-specifically. If not required, the August median flow will be applied year-round.

- b. Where there is virtually no bypass (tailrace discharges at the dam or into plunge pool close to the dam such that adequate circulation is maintained<sup>5</sup>) will have a spillage proposal of at least 7Q10 drought flow<sup>5</sup> and spillage adequate to address aesthetics (based upon site visit and/or site-specific study).<sup>6</sup>
- Fish passage facilities not needed.<sup>6</sup>
  - Poses no significant impact to threatened or endangered species.<sup>6</sup>
  - Does not significantly alter site aesthetics.<sup>6</sup>
  - Is not located where there is a high value (for habitat) bypass.<sup>6</sup>
  - Where there are direct or indirect impacts to historic and archaeological resources, projects are reviewed on a case-by-case basis by the State Historic Preservation Office, and adhere to recommendations made by that office.<sup>7</sup>
  - Developer can demonstrate control of all necessary lands and facilities, including the dam and reservoir, other than federal lands (or clear plan to acquire rights to site).

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<sup>5</sup> The 7Q10 refers to the lowest average streamflow expected to occur for seven consecutive days with an average frequency of once in ten years. If it's a gaged stream, ANR can supply this statistic. If not, use 0.1 csm, the statewide value.

<sup>6</sup> To be determined by the Agency of Natural Resources site-specifically after a site visit.

<sup>7</sup> See ACCD's "Criteria for Evaluating the Effect of Proposed Telecommunications Facilities, Transmission Lines, and Wind Power Facilities on Historic Resources" for guidance:  
[http://accd.vermont.gov/strong\\_communities/preservation/review\\_compliance/telecom\\_criteria](http://accd.vermont.gov/strong_communities/preservation/review_compliance/telecom_criteria)

## Pre-Site Visit Information Required from Applicant:

### Applicant Information

Organization/Business: \_\_\_\_\_

Name of Main Contact: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number(s): \_\_\_\_\_

Email address: \_\_\_\_\_

Associated website: \_\_\_\_\_

### Project Information

1. Name of Project: \_\_\_\_\_
2. Project Location: \_\_\_\_\_
3. Attach a Project Description, including:
  - a. Existing and proposed structures and civil works that will be affected by the project, including **dates of construction if known, current condition and proposed alterations** (note these on the site plan as well)
    - i. Powerhouses
    - ii. Dams
    - iii. Water conduits (penstock)
    - iv. Transmission lines/interconnection points/potential routes
    - v. Water impoundments
    - vi. Roads
    - vii. Other appurtenant works and structures that will be utilized and/or required to support the project. Have any of these structures or features been identified as listed on the State or National Register of Historic Places?
  - b. Building remnants and dates of construction (note locations on site plan; remnants defined as cellar holes, mill ruins, related mill/powerhouse equipment such as penstock, etc.)

- c. List of archaeological resources, if known
  - d. Description of turbine and generator
  - e. Hydrology and geomorphology
  - f. Measures employed to avoid/minimize fish impingement and entrainment
4. Attach a Site Locator Map (using Google maps or topographic maps) showing:
  - a. Location of the project
  - b. Watershed size<sup>8</sup>
  - c. Watershed boundaries at a scale necessary to accommodate entire watershed area<sup>8</sup>
5. Provide a Site Plan (sketch) at an appropriate scale that shows all:
  - a. Land (including property boundaries and ownership)
  - b. Existing structures
  - c. Proposed structures
  - d. Water area that will be affected by the proposed project
6. Provide photo documentation of the site and stream, including:
  - a. Overall site from upstream and downstream, showing approximate locations of intake, bypass, penstock, and point of return (if known)
  - b. Project location
  - c. Existing buildings and structures, including building remnants
7. Provide information on any consultants/experts that have been engaged, including their engineering/legal qualifications
8. Provide a list of state/federal agencies and other stakeholders with whom you have consulted about the project, or plans for engaging in those consultations
9. Provide any engineering plans that are available
10. Provide any initial calculations that have been performed of initial/ongoing costs, head/flow rates that indicate the power potential and resulting economic viability of the site, and potential sources of funding/financing for the project (see [http://publicservice.vermont.gov/sites/psd/files/Topics/Renewable\\_Energy/Resources/Hydro/HydroHandbook.pdf](http://publicservice.vermont.gov/sites/psd/files/Topics/Renewable_Energy/Resources/Hydro/HydroHandbook.pdf) for some helpful guidance).
11. Provide a list of adjoining property owners with contact information (name, address, phone, and email)

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<sup>8</sup> Can be obtained from USGS Stream Stats website at <http://water.usgs.gov/osw/streamstats/Vermont.html>

## FERC issued licenses in VT as of December 6, 2013

Docket Number	Project Name <sup>1</sup>	Expiration Date	Issue Date	Authorized Capacity (KW)	Licensee	Waterway	ST
P- 14308	VERMONT TISSUE MILL	03/31/43	04/25/13	360	CARBON ZERO, LLC	WALLOOMSAC RIVER	VT
P- 13226	BALL MOUNTAIN DAM	03/31/62	04/12/12	2196	BLUE HERON HYDRO, LLC.	WEST RIVER	VT
P- 13368	TOWNSHEND DAM	02/28/62	03/29/12	924	BLUE HERON HYDRO, LLC.	WEST RIVER	VT
P- 11478	SILVER LAKE	01/31/39	02/26/09	2200	GREEN MOUNTAIN POWER CORP (VT)	SUCKER BROOK	VT
P- 11475	CARVER FALLS	01/31/39	02/25/09	2251	GREEN MOUNTAIN POWER CORP (VT)	POULTNEY RIVER	VT
P- 7528	CANAAN	07/31/39	01/16/09	1100	PUBLIC SERVICE CO OF NH (NH)	CONNECTICUT RIVER	VT
P- 12766	Clay Hill Road Line 66 Transmission	11/30/21	05/15/07	0	GREEN MOUNTAIN POWER CORP (VT)	OTTAUQUECHEE RIVER	VT
P- 2205	LAMOILLE	05/31/35	06/20/05	21050	GREEN MOUNTAIN POWER CORP (VT)	LAMOILLE RIVER	VT
P- 7725	BARTON VILLAGE	10/01/43	06/09/04	1400	BARTON VILLAGE INC (VT)	CLYDE RIVER	VT
P- 3090	VAIL	02/28/34	03/11/04	350	LYNDONVILLE VILLAGE OF (VT)	PASSUMPSIC RIVER	VT
P- 2306	CLYDE RIVER	10/31/43	11/21/03	4675	GREAT BAY HYDRO CORP	CLYDE RIVER	VT
P- 2077	FIFTEEN MILE FALLS	03/31/42	04/08/02	319960	TRANSCANADA HYDRO NORTHEAST INC.	CONNECTICUT RIVER	VT
P- 2737	MIDDLEBURY LOWER	07/31/31	08/01/01	2250	GREEN MOUNTAIN POWER CORP (VT)	OTTER CREEK	VT
P- 2731	WEYBRIDGE	07/31/31	08/01/01	3000	GREEN MOUNTAIN POWER CORP (VT)	OTTER CREEK	VT
P- 2674	VERGENNES	05/31/29	07/30/99	2600	GREEN MOUNTAIN POWER CORP (VT)	OTTER CREEK	VT
P- 2323	DEERFIELD RIVER	03/31/37	04/04/97	76910	TRANSCANADA HYDRO NORTHEAST INC.	DEERFIELD RIVER	VT
P- 2513	ESSEX NO 19	02/28/25	03/30/95	8050	GREEN MOUNTAIN POWER CORP (VT)	WINOOSKI R	VT
P- 2399	ARNOLD FALLS	11/30/34	12/08/94	350	GREEN MOUNTAIN POWER CORP (VT)	PASSUMPSIC R	VT
P- 2397	GAGE	11/30/34	12/08/94	700	GREEN MOUNTAIN POWER CORP (VT)	PASSUMPSIC RIVER	VT
P- 2396	PIERCE MILLS	11/30/34	12/08/94	250	GREEN MOUNTAIN POWER CORP (VT)	PASSUMPSIC RIVER	VT
P- 2400	PASSUMPSIC	11/30/34	12/08/94	700	GREEN MOUNTAIN POWER CORP (VT)	PASSUMPSIC RIVER	VT
P- 2489	CAVENDISH	10/31/24	11/04/94	1440	GREEN MOUNTAIN POWER CORP (VT)	BLACK RIVER	VT
P- 2490	TAFTSVILLE	08/31/24	09/20/94	500	GREEN MOUNTAIN POWER CORP (VT)	OTTAUQUECHEE RIVER	VT
P- 2392	GILMAN	03/31/24	04/13/94	4850	AMPERSAND GILMAN HYDRO, LP	CONNECTICUT RIVER	VT
P- 2445	CENTER RUTLAND	12/31/23	03/31/93	275	GREEN MOUNTAIN POWER CORP (VT)	OTTER CREEK	VT
P- 2756	CHACE MILL	10/31/28	11/03/88	7455	WINOOSKI ONE PARTNERSHIP (VT)	WINOOSKI RIVER	VT
P- 9649	LOVEJOY DAM	06/30/26	07/29/86	150	LOVEJOY TOOL CO INC (VT)	BLACK RIVER	VT
P- 7888	COMTU FALLS	06/30/26	07/18/86	460	COMTU FALLS ASSOCIATES (VT)	BLACK RIVER	VT
P- 9650	GILMAN DAM	06/30/26	07/18/86	125	FACTORY FALLS INC. (VT)	BLACK RIVER	VT
P- 9648	FELLOWS DAM	06/30/26	07/18/86	150	ONE HUNDRED RIVER STREET, LLC.	BLACK RIVER	VT
P- 7373	MARTINSVILLE	11/30/34	12/28/84	250	BOERI JOHN L 'JAY' JR	LULL BROOK	VT
P- 7186	SHELDON SPRINGS	09/30/24	11/02/84	24965	MISSISQUOI ASSOCIATES (ID)	MISSISQUOI RIVER	VT
P- 2547	HIGHGATE FALLS	04/30/24	05/24/84	11510	SWANTON VILLAGE OF (VT)	MISSISQUOI R	VT
P- 5261	NEWBURY	08/31/23	09/08/83	340	NEWBURY HYDRO CO (VT)	WELLS RIVER	VT
P- 6470	WINOOSKI 8	07/31/23	08/29/83	810	WINOOSKI HYDROELECTRIC CO (VT)	WINOOSKI RIVER	VT
P- 2905	ENOSBURG FALLS	04/30/23	07/12/83	975	ENOSBURG FALLS VILLAGE OF (VT)	MISSISQUOI RIVER	VT
P- 5313	DEWEY'S MILLS	12/31/32	01/20/83	2900	HYDRO ENERGIES CORP (VT)	OTTAUQUECHEE RIVER	VT
P- 3131	BROCKWAYS MILLS	12/31/32	01/20/83	803	BROCKWAY MILLS, LLC	WILLIAMS RIVER	VT
P- 5944	MORETOWN NO 8	11/30/22	12/07/82	1250	AMPERSAND MORETOWN HYDRO, LLC.	MAD RIVER	VT
P- 5124	NORTH BRANCH NO 3	10/31/22	11/23/82	933	WASHINGTON ELECTRIC COOP INC (VT)	WINOOSKI RIVER	VT
P- 5702	BARNET	07/31/32	08/06/82	530	BARNET HYDRO CO (VT)	STEVENS RIVER	VT
P- 2879	BOLTON FALLS	01/31/22	02/05/82	7550	GREEN MOUNTAIN POWER CORP (VT)	WINOOSKI RIVER	VT
P- 2816	NORTH HARTLAND	11/30/21	11/24/81	4137	NORTH HARTLAND,LLC	OTTAUQUECHEE RIVER	VT
P- 2629	MORRISVILLE	04/30/15	08/28/81	5100	MORRISVILLE VILLAGE OF (VT)	LAMOILLE RIVER	VT
P- 1889	TURNERS FALLS	04/30/18	05/05/80	67709	FIRSTLIGHT HYDRO GENERATING CO.	CONNECTICUT RIVER	VT
P- 1892	WILDER	04/30/18	12/10/79	35600	TRANSCANADA HYDRO NORTHEAST INC.	CONNECTICUT RIVER	VT
P- 1855	BELLOWS FALLS	04/30/18	08/03/79	40800	TRANSCANADA HYDRO NORTHEAST INC.	CONNECTICUT RIVER	VT
P- 2839	GREAT FALLS	05/31/19	06/29/79	2050	LYNDONVILLE VILLAGE OF (VT)	PASSUMPSIC RIVER	VT
P- 1904	VERNON	04/30/18	06/25/79	32400	TRANSCANADA HYDRO NORTHEAST INC.	CONNECTICUT RIVER	VT
P- 2558	OTTER CREEK	03/31/12	02/23/76	18279	GREEN MOUNTAIN POWER CORP (VT)	OTTER CREEK	VT
P- 2090	WATERBURY	08/31/01	07/20/54	5520	GREEN MOUNTAIN POWER CORP (VT)	LITTLE RIVER	VT

Docket Number	Project Name <sup>1</sup>	Expiration Date	Issue Date	Authorized Capacity (KW)	Licensee	Waterway	ST
<b>FERC issued exemptions in VT as of December 6, 2013</b>							
Docket Number	Project Name	Issue Date	Authorized Capacity	Licensee	Waterway	ST	Description
P- 13381	TROY HYDROELECTRIC	12/02/11	850	TROY MILLS	MISSISQUOI RIVER	VT	Exemption - Non Conduit
P- 13565	ALDER BROOK	07/13/10	9	CHARLES	ALDER BROOK	VT	Exemption - Non Conduit
P- 13269	BENNINGTON WATER TREATMENT	01/09/09	17	TOWN OF		VT	Exemption - Conduit
P- 10172	NORTH TROY	06/29/89	460	MISSISQUOI	MISSISQUOI RIVER	VT	Exemption - Non Conduit
P- 9826	BETHEL MILLS	09/17/86	525	BETHEL MILLS	WHITE RIVER	VT	Exemption - Non Conduit
P- 8014	SLACK DAM	09/30/85	400	SPRINGFIELD	BLACK RIVER	VT	Exemption - Non Conduit
P- 8354	KILLINGTON	09/30/85	100	KILLINGTON	KENT BROOK	VT	Exemption - Non Conduit
P- 8242	LADDS MILL	06/11/85	171	WORCESTER	NORTH BRANCH WINOOSKI RIVER	VT	Exemption - Non Conduit
P- 7809	EMERSON FALLS	01/28/85	230	EMERSON FALLS	SLEEPERS RIVER	VT	Exemption - Non Conduit
P- 6757	DOG RIVER	11/29/84	228	NANTANA MILLS	DOG RIVER	VT	Exemption - Non Conduit
P- 8011	DODGE FALLS	06/11/84	5000	DODGE FALLS	CONNECTICUT RIVER	VT	Exemption - Non Conduit
P- 7434	KINGSBURY	11/18/83	220	KINGSBURY	KINGSBURY BRANCH WINOOSKI RIVER	VT	Exemption - Non Conduit
P- 7268	WOODSIDE	06/10/83	125	WOODSIDE	GIHON RIVER	VT	Exemption - Non Conduit
P- 6795	POWNAI	04/01/83	400	TOWN OF	HOOSIC RIVER	VT	Exemption - Non Conduit
P- 7047	HALLS BROOK	03/03/83	5	THANHAUSER S	HALLS BROOK	VT	Exemption - Non Conduit
P- 2787	OTTAUQUECHEE WOOLEN MILL	08/13/82	1887	OTTAUQUECHEE	OTTAUQUECHEE RIVER	VT	Exemption - Non Conduit
P- 3051	EAST BARNET	05/11/82	2200	CENTRAL	PASSUMPSIC RIVER	VT	Exemption - Non Conduit
P- 5195	DOWNERS MILL	05/04/82	400	SIMON PEARCE	OTTAUQUECHEE RIVER	VT	Exemption - Non Conduit
P- 4770	WELLS RIVER	10/09/81	1318	WELLS RIVER	WELLS RIVER	VT	Exemption - Non Conduit
P- 2488	BRADFORD	09/29/81	1500	CENTRAL	WAITS RIVER	VT	Exemption - Non Conduit

<b>FERC Notices of Intent to Construct Qualifying Conduit Hydropowe Facilities in VT as of December 6, 2013</b>										
Docket Number	Project Name	Applicant	County/County	State	Capacity (kW)	Notice of Intent Filed	Public Notice Issued	Public Notice Close	Determination Issued	Determination
CD13-3	Nelson Street Project	City of Barre, Vermont	Washington	VT	13	8/30/2013	9/10/2013	10/25/2013	10/28/2013	Qualifies