

Vermont Department of Environmental Conservation

Watershed Management Division

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Low Impact Hydropower Institute Office

329 Massachusetts Ave, Suite 6

Lexington, MA 02420

Re: Comments on Proposal to Expand Eligibility for New Construction

Dear Governing Board,

The Low Impact Hydropower Institute (LIHI) currently reviews hydropower facilities for certification based on potential social and environmental impacts. If those impacts meet the goals statement for each criterion, then LIHI certifies the project. LIHI currently only certifies facilities at dams/diversions built prior to 1998. LIHI is proposing to change eligibility criteria to consider facilities at dams or diversions constructed within the last 5 year for certification, on a rolling basis. Under the proposed eligibility criteria LIHI will consider an application for a facility located at a structure built within the last 5 years as long at the new structure provides a net benefit to resource values. A net benefit to resource values is defined as “An increase in the overall habitat quality or quantity in the vicinity of the facility that is likely to lead to an increased number of fish or wildlife after technology improvements or mitigation measures have been completed.”

The Vermont Agency of Natural Resources (Agency) does not agree with the proposed changes to the eligibility criteria to include newly constructed dams/diversions on a 5-year rolling basis for LIHI certification. While the Agency recognizes the need to stay relevant in a changing policy and market landscape, including those in Green-e, we do not believe that 5 years is a sufficient amount of time to confidently determine the effects of a newly constructed facility and its operations, which includes a determination of the facility providing a net benefit. Moreover, the Agency is unaware of any general regulatory requirements that will compel applicants/owners of new facilities, once permitted, to invest in studies of a caliber sufficient to determine a project’s net benefit, as defined.

In addition, the construction of a dam contradicts current Vermont Statute (10 V.S.A § 4607)

- (a) A person shall not unless authorized by the Commissioner prevent the passing of fish in a stream or the outlet or inlet of a natural or artificial pond on a public stream, by means of a rack, screen, weir, or other obstruction, and shall comply with the terms of the notice in subsection (b) of this section.

It is possible that technology and design improvements could alter a traditional facility layout and its associated impacts. Better designs and technological advances could one day mean that facilities provide full fish passage, and little to no alterations in stream processes and functions, but the Agency does not believe advances have progressed to a point where new structures could be considered ‘low impact’. As a result, the Agency does not believe facilities constructed after 1998 should be entirely ineligible, but advances in technology and design should have a demonstrated track record of avoiding the impacts associated with traditional dam/diversion construction generally, and there should be a more stringent process and specific criteria for determining what would qualify as a ‘low impact’ facility.

As stated by LIHI, the current eligibility “was adopted to avoid LIHI’s Certification program becoming an incentive or support for the construction of new dams”. Given that new facilities built on non-powered dams are currently eligible for certification, by moving certification to a rolling 5-year window, the Agency believes that LIHI may unintentionally incentivize the construction of new dams and hydro developments, in an era when society is actively investing in the removal of defunct, abandoned dams. While LIHI notes few new dams/diversions have been constructed since 1998 and concludes from this that LIHI is not driving interest in the construction of new diversions/dams, current LIHI criteria do not incentivize construction of these projects. The proposed expanded eligibility may fundamentally change the financial landscape for those contemplating new dam/diversion construction. Also concerning is that the incentive itself (e.g., access to renewable energy credit markets) may be highly uncertain, given growth in other renewables and changes to related policies.

Below the Agency has provided feedback on specific questions posed by LIHI:

Should LIHI change the cutoff date for new dams or diversions?

The Agency believes there is a high bar for new dam construction, which is reflected in current Vermont Statute (10 V.S.A § 4607). Additionally, the Agency does not believe advances have progressed to a point where new structures could be considered ‘low impact’. Until such time that technological advances have a demonstrated record of low impact compared with traditional facilities, eligibility should focus on powering existing dams or diversions, which is already acceptable under the current requirements.

Is five years an appropriate timeframe to understand a new dam or diversion’s impacts?

The Agency does not believe that 5 years is enough time to understand the impacts from a new dam or diversion. There are a number of fish species that have life cycles longer than 5 years and its possible that an impact to a fish population would not be realized for multiple generations. Additionally, changes to the physical environment (e.g. geomorphic) from altered flow and sediment regimes may take considerable time to reach a new equilibrium condition.

Should the new date be a specific date or rolling as suggested in the proposal?

If there is going to be a date change in the future, it should utilize a longer rolling time window, rather than a periodic update in eligibility requirements.

Should other eligibility requirements be adjusted?

The Agency does not believe that there should be any changes to existing eligibility requirements, however there must be a clear and specific process for determining net benefits to the resource.

How should an applicant demonstrate net benefit to resource values?

A net benefit to the resource should be a measurable value. This includes knowing the condition of the resource before and after the construction of a facility. Examples of possible measurable criteria could include available habitat under previous conditions vs. new conditions, or direct observations of population levels, for target species. Other physical changes to the environment including, temperature, sediment transport, and other relevant stream processes should be considered. Additionally, the demonstration of a net benefit needs to conform to standards of current scientific and statistical practice for the criteria of interest.

Does the definition of Net Benefit (page 42 of 2nd Edition Handbook) need to be adjusted?

The definition of net benefit should include language specifying measurable criteria. In addition, the definition should exclude the phrase “that is likely to lead to an increase” and instead focus on measurable values that have demonstrably led to increases in resource values.

Thank you for consideration of our comments.

Yours Truly,



Betsy Simard
River Ecologist