9 Union Street, Third Floor
Hallowell, ME 04347

June 25, 2012

Mr. Fred Ayer, Executive Director
Low Impact Hydropower Institute
34 Providence Street
Portland, ME
04103

RE: Deerfield River Hydroelectric Project
FERC No. P-2323

Dear Fred:

On behalf of Trout Unlimited (TU), I hereby resubmit our comments on the Low Impact Hydropower Institute's ("LIHI") Pending Application for the proposed LIHI certification of the Deerfield River Hydroelectric Project located in Bennington and Windham Counties, Vermont, and Berkshire and Franklin Counties, Massachusetts.

I have reviewed the documents available on the LIHI website, and, with the exception of several comment letters, there appear to be no changes whatsoever in TransCanada's application. For example, it does even appear that TransCanada has filled out the revised 2011 Project Questionaire. As such, we see no reason to revise our comments, and I am resubmitting TU's comments from 2010 as is. Please note, however, that my mailing address has changed. Email and phone remain the same.

It is unfortunate that TransCanada did not take the opportunity to update its application or to respond to the many comments opposing LIHI Certification in 2010. As one minor example, TU commented on the lack of any significant environmental mitigation funded with the Deerfield River Basin Environmental Enhancement Fund. I note that that in the application before you for review, in response to Question D2 regarding enhancement funds, TransCanada responds:

> *As of the end of calendar year 2008 the fund balance was $129,213.70. Two rounds of grant-making in 2003 (5 grantee recipients and grants totaling $15,700), and in 2007 (3*

grantee recipients and grants totaling $10,150.00) have been concluded with the expectation that funding will continue on a four year funding cycle.

TU notes that a $100,000 enhancement fund is too small to accomplish much of consequence in a watershed the size of the Deerfield—especially if the only activity by the Fund's trustees since 2007 has been to allow the fund to accrue interest.

Both personally and professionally, I have been a long time supporter of LIHI certification as a fair way to identify environmentally friendly hydro projects. I have expended TU's political capital in the Maine statehouse to make that case. I engaged in extensive outreach to Maine Interfaith Power to convince them to adopt LIHI certification if they were to offer hydropower as their "green alternative". And I have provided comments on multiple project applications.

I see this decision as an important test case. As outlined in more detail in my comments below, the Deerfield Project has multiple dams, no fish passage, extensive bypass reaches, and peaking flows in almost every river reach. Uniformly, across a pretty broad spectrum of the river community, public and agency input on the application has opposed its certification. Certification of this project will substantially undermine LIHI's credibility, and will by itself turn me from an active supporter of your organization to an active opponent.

In addition, it is long past time for LIHI to revise your Criteria. As your website notes, you've been engaged in that process since 2009, and received substantial comments that neither your existing criteria nor the updates proposed in 2009 were adequate. I would add that since 2009 I have been contacted by LIHI a number of times with regard to the adequacy of LIHI's standards and criteria. As you know, from my comments on that process, from conversations I have had with you and with consultants to LIHI and from my participation at a meeting in New Gloucester to discuss LIHI's process for updating your criteria, I believe some substantial change is necessary. It's time to get on with it.

Sincerely,

Jeff Reardon
Maine Brook Trout Project Director

P.O. Box 2613
Augusta, Maine 04338

March 3, 2010

Mr. Fred Ayer, Executive Director
Low Impact Hydropower Institute
34 Providence Street
Portland, ME
04103

RE: Deerfield River Hydroelectric Project
FERC No. P-2323

Dear Fred:

On behalf of Trout Unlimited (TU), I hereby submit the following comments on the Low Impact Hydropower Institute's ("LIHI") Pending Application for the proposed LIHI certification of the Deerfield River Hydroelectric Project located in Bennington and Windham Counties, Vermont, and Berkshire and Franklin Counties, Massachusetts.

As you know, TU is a national organization whose mission is to conserve, protect and restore North America's trout and salmon and their habitat. To that end, TU's membership has worked for decades to address the substantial impacts of hydroelectric developments on fish passage, in-stream flows, fish habitat and angling. TU participated in the negotiations leading up to the Comprehensive Settlement on the Deerfield Project in 1994, and TU was a signatory to the Settlement. We believed at the time that the Settlement was appropriate for a set of facilities that had been constructed during an era with few state or federal laws to protect aquatic habitat, and consequently little regard for natural resource values. The Settlement attempted to strike a balance between the value of continuing hydropower generation and compliance with state and federal environmental laws. As a signatory, we continue to respect the legal agreement struck nearly 16 years ago, and we believe the Deerfield Project, operated according to the terms of the Settlement, is in compliance with all state and federal laws. However, had the Settlement included a term under which signatories were required to support LIHI certification of the Deerfield Project, TU would not have signed it. We believe strongly that there is a difference between complying with minimal environmental standards and qualifying as a project with

"low" impacts. We do not believe the Deerfield Project should qualify as "low-impact", nor do we believe it meets LIHI's standards for certification.

Issues That Affect the Degree of Impact on Cold Water Fish

For TU, a fundamental question for certifying projects as "low impact"—a certification that offers both financial incentives and green-labeling recognition—is whether, compared to other hydroelectric facilities in the region, the facility has greater or lesser impact on fish passage, instream flows, and fish habitat.

- Fish Passage: The lowest impact facilities are located at or near natural barriers that were historically impassable. For facilities within historic migratory fish habitat, facilities with state of the art, permanent, tested, and well-managed upstream and downstream passage have less impact than facilities with no, interim, or poorly functioning passage. All other things being equal, projects involving a single dam within historic migratory fish habitat have lower impacts than projects involving multiple dams within a short reach.
- Instream Flows: Run-of-river projects have less impact than peaking projects. Projects without bypassed reaches have less impact than projects that have them. Projects whose flow releases mimic natural variation, including normal daily and seasonal variations, have less impact than projects that profoundly alter the daily and seasonal hydrograph.
- Fish Habitat: In addition to affecting habitat through altered flows and bypassed stream reaches, many hydroelectric projects also inundate formerly productive riverine habitat. All other things being equal, projects that impound or dewater a low proportion of historic stream miles have less impact than projects that impound a large proportion.

The Deerfield River Project—Environmental and Habitat Impacts

We have reviewed the application materials provided by TransCanada to support certification by LIHI, and offer the following comments.

Fish Passage. Although the Project is in compliance with the fish passage terms of the 1994 Settlement, and a Final Downstream Fish Passage Plan was approved by FERC in 2009 and is planned to be fully implemented by 2011, none of the project dams have constructed upstream fish passage facilities despite the fact that the trigger for upstream salmon passage has been reached. Instead, with the agreement of state and federal fisheries agencies, the licensee is conducting a radio tagging study of Atlantic salmon below the Deerfield #2 dam. The application for certification notes that this "provides crucial information about the distribution and movement of returning adults", but it does nothing to restore spawning Atlantic salmon to their former habitat in the Deerfield watershed. We also note that there are no provisions for upstream or downstream eel passage, no provisions to address fish entrainment at multiple dams, and no provisions for passage of species that comprise the majority of the resident fish community, including native Eastern brook trout.

Instream Flows. None of the project dams are operated in run-of-river mode. The Somerset and Harriman dams provide annual water storage and fundamentally alter the annual hydrograph. In addition, all of the project dams except the Somerset Dam (which does not generate) are operated in store and release peaking mode, with flows below the dams that vary significantly on a daily basis. Other than the Somerset Dam and Deerfield #2 (where peaking fluctuations are limited to no more than 2 per day or 10 per week) there are no restrictions on flow fluctuations or ramping

other than minimum flow requirements. These deviations from the natural flow regime have significant effects on aquatic life and recreation in the river corridor. In addition, based on the materials provided in Attachment C and Attachment D, there appear to be very few restrictions on reservoir fluctuations. The only restrictions noted are for the Harriman Reservoir, where rising or stable impoundment levels are guaranteed between April 1 and June 15, and reservoir draw down is limited to more than 1 foot per day from June 16 to July 15. The reservoir fluctuations that result from storage and peaking operations also have significant impacts on aquatic, wetland, and riparian habitat along the reservoirs.

Fish Habitat. The Deerfield River Project consists of 8 dams (including the Somerset Dam, which provided storage for the project) located along approximately 60 miles of the Deerfield River. The lowest dam in the project is 13 miles upstream of the Deerfield's confluence with the Connecticut River; the highest dam in the project is located near the headwaters of the Deerfield's central branch. Together with the intervening Fife Brook Project, the projects impound approximately 25 of those miles. An additional 8.5 miles—4.3 miles at the Searsburg Dam, 2.7 miles at Deerfield #5 and 1.5 miles at Deerfield #4—are affected by bypass flows, and the river channel in these reaches conveys only minimum flow releases during most of the year. As a result of the impoundments and bypass reaches, more than half of the pre-dam river corridor is substantially altered. The remaining river reaches, with the exception of the six river miles from Somerset Dam to the head of the Searsburg impoundment, are all subject to peaking flows.

Mitigation for Impacts

LIHI's criteria recognize that mitigation or enhancement can offset or compensate for the impacts of project existence and operations. In the case of the Deerfield Project, the Settlement provided for three such offsets:

- Enhancement Fund. TransCanada created an enhancement fund of $100,000. Since 2000, this fund has disbursed $25,850, and expects to continue to disburse a similar amount of money—approximately $10,000 to $15,000 every four years—for the duration of the license. No information is provided regarding the projects that have been funded. The average grant has been less than $4,000, and a total of eight grants have been awarded.
- Conservation Easements. A condition of the Settlement provided conservation easements held by the Vermont Land Trust and the Massachusetts Department of Environmental Management on just over 18,000 acres of land. These easements allow for forestry, agriculture, and the construction and maintenance of hydroelectric projects and transmission facilities, but prevent residential or commercial development. TransCanada's application materials indicate that these lands provide wildlife habitat, natural resources protection, and recreational and scenic opportunities.
- Scheduled Recreational Releases. In addition to habitat impacts, peaking flows fundamentally alter use of the river for recreation. The mere existence of the dams, and the presence of their associated impoundments and bypass reaches, eliminates more than half of the fishable stream miles on the affected river reach. The remaining stream miles are subject to irregular and unpredictable flows that affect fish behavior, make wading difficult in most reaches and impossible in some, and make planning a fishing trip nearly

impossible. While river flows fluctuate on natural rivers, anglers can predict the conditions they will encounter based on the weather. This is not the case for any reach of the Deerfield within the river reach affected by the Deerfield Project except for the 6 miles between the Somerset dam and the Searsburg reservoir—approximately 10% of the affected reach. TransCanada does schedule and provide regular whitewater boating flows so that canoeists, kayakers and rafters can have predictable recreation. There is no similar program to provide fishable flows for anglers at any of the project's peaking dams.

We recognize the benefits of the Enhancement Fund, the Conservation Easements, and the scheduled whitewater boating flows, but we do not believe that any of these measures offers a substantial benefit to trout and salmon habitat, or to aquatic habitat in general, that offsets the substantial impacts of project operations. Given the information provided, it is difficult to identify any significant benefit of the Enhancement Fund to coldwater fisheries habitat, to anglers, or to other aquatic resources affected by the Deerfield Project. Even if 100% of the funding were directed to high priority trout and salmon habitat protection and restoration, the number of grants and their small size would yield only very modest benefits. Although the benefits of the land conservation easements are straightforward, these benefits are not directly or even indirectly connected to the impacts of the Deerfield Project on aquatic habitat. And while the recreational flow releases certainly offer benefits to some users, they actually interfere with enjoyment of the resource by anglers.

Summary of Impacts and Benefits

By any measure, the impacts of the Deerfield Project on aquatic and salmonid resources are profound:

- eight dams within 60 miles of a single river corridor;
- impoundment or bypass or more than half the river miles within the reach affected by the project;
- substantial daily flow fluctuations below seven of the eight dams within the reach affected by the project;
- alteration of the annual hydrograph for all of the affected reach;
- no permanent or interim upstream fish passage for diadromous or resident fish;
- no upstream or downstream passage of any kind for eels;
- no measures to reduce fish entrainment.

The terms of the 1994 Settlement Agreement, and the subsequent issuance of FERC licenses and 401 Certificates, have ensured that the impoundments and tailwaters of the eight project dams meet minimum state and federal standards, and TU believed in 1994 when we signed the Settlement, and continues to believe today, that the issuance of the License and 401 Certificates was appropriate. However, we believe that for certification that the Deerfield Project should qualify for and receive the benefits of LIHI Certification as "Low Impact", a higher standard must apply. LIHI Certification should not serve simply as recognition that a project complies with a (relatively) recently-issued license. Rather, it should recognize projects that, compared to similar projects in the region, strike a more resource-friendly balance between natural resource protection and power generation than is required by law. LIHI Certification should be a goad for licensees to exceed minimum standards, not a reward for complying with them.

On balance, compared to several other similar New England river basins with multiple hydropower projects, we believe the actual environmental impacts associated with existence and operation of the Deerfield Project to be considerably higher, and the natural resource protection/mitigation/enhancements offered to offset these impacts to be considerably lower.

For example, on the Connecticut, Kennebec, Androscoggin, Penobscot, and Merrimac rivers, at least the lowest dam, and in some cases the majority of the hydropower dams in the watershed within have constructed permanent upstream fish passage for multiple species. For the Deerfield Project, none of the dams have constructed upstream passage, and current passage plans include only Atlantic salmon, and not other diadromous species such as eels, or passage for resident fish.

In the Androscoggin, Kennebec, and Connecticut River watersheds, substantial mitigation funds—in some cases multiple millions of dollars—have been established to offset the impacts of lack of fish passage, headwater storage impoundments that alter the annual hydrograph, daily peaking flows, and other project impacts. For the Deerfield Project, there is a fund of $100,000.

In the Kennebec and Penobscot River watersheds, several dams have been removed to improve fish passage, in part to offset the impacts of multiple mainstem dams. On the Deerfield River, a total of 9 dams are located along almost the entire length of the river's main branch.

On the Housatonic River, dams that were formerly operated in daily peaking mode have been converted to run-of-river operations. None of the Deerfield's generation is run-of-river.

On the Kennebec, Connecticut, and Androscoggin rivers, some projects operate in peaking mode, but downstream projects are operated to re-regulate flows and minimize length of the reach affected by the impacts of peaking flows. On the Deerfield River, only a single river reach—6 miles, upstream of the uppermost generating dam—is not subjected to peaking.

At projects on the Kennebec, Androscoggin, and West Branch Penobscot, detailed flow release plans carefully balance the potentially competing uses of whitewater boating and fishing with ecologically important flows. On the Deerfield there are whitewater boating releases, and all other flows from generating dams are subject to instantaneous alteration.

With the possible exception of the land protection embodied in the Conservation Easements (which has also been common for many other projects in the region), we can think of no way in which ANY of the dams in the Deerfield Projects serves as a model for environmentally friendly operations we would like to see adopted at other projects. And the number of peaking projects within a relatively short reach of river compounds the environmental impacts of each, and is unmatched on any other New England River.

Conclusion

Trout Unlimited does not support TransCanada's application for LIHI Certification of the Deerfield River Project for the reasons outlined above. This project has large headwater storage reservoirs, long bypass reaches, daily peaking operations, and no upstream fish passage. Its

construction and operation has dramatically changed the nature of the Deerfield River, and the project offers no substantial offsetting environmental benefits to compensate for these losses.

We believe the 1994 Settlement served an important purpose—it restored minimum flows to bypass reaches and "dryways", provided a framework for eventual) upstream and downstream fish passage for Atlantic salmon at the lowermost project dam, and provided recreational flows that are favored by whitewater boaters. It also served to bring the projects into compliance with state and federal environmental standards that were in place 16 years ago. However, the terms of the Settlement do not justify recognition as "Low Impact" and we urge LIHI to reject TransCanada's application.

TU believes that TransCanada's application for certification serves as an important test case for LIHI. We have been strong supporters of LIHI Certification because--and only because--we believed it was a standard that recognized and rewarded exemplary projects that were designed, constructed, and/or operated in ways that exceed minimum legal standards. The Deerfield Project does not meet that standard.

If the Deerfield Project qualifies for Low Impact Certification, it is difficult to imagine that any project licensed since 1990 would not so qualify.

Thank you for this opportunity to comment.

Sincerely,

Jeff Reardon
New England Conservation Director
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