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January 10, 2014

VIA ELECTRONIC FILING

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

Re: TransCanada Hydro Northeast Inc.;
Project No. 1892-026 – New Hampshire / Vermont
Project No. 1855-045 – New Hampshire / Vermont
Project No. 1904-073 – New Hampshire / Vermont
Additional ILP Comment regarding use of Hydroacoustics in Downstream Migratory Fish Studies

Dear Secretary Bose:

TransCanada Hydro Northeast Inc. ("TransCanada"), licensee for the Wilder, Bellows Falls and Vernon Projects respectfully submits additional comments on the yet to be determined use of hydroacoustic technology in several of the fish passage studies proposed in our Revised Study Plan dated August 13, 2013. In its September 13, 2013 Study Plan Determination the Commission listed studies pending determination based upon changes in baseline conditions due to the closure of Entergy's Vermont Yankee nuclear power plant (VY). That list included a Hydroacoustic Study; these comments are specific to that topic.

At a November 26, 2013 FERC study plan meeting, FERC clarified that it inadvertently included the hydroacoustic study as a stand-alone study request, whereas it should be considered a proposed modification to proposed studies, based upon stakeholder comment and interest – primarily from the US Fish and Wildlife Service (FWS). Because TransCanada's Revised Study Plan referenced, prior to the VY shutdown announcement, a hydroacoustic study that VY proposed in Vernon Project waters (that presumably will not occur) and because FERC continues to deliberate on its Determination of the application of hydroacoustic methods, further comments from TransCanada are warranted.

In Study Plan 22 (Downstream Migration of Juvenile American Shad – Vernon) TransCanada noted that VY had submitted a study proposal to the Vermont Agency of Natural

Resources to monitor juvenile shad downstream movement through the Vernon impoundment via a hydroacoustic array located in the forebay of Vernon dam. During the November 26, 2013 meeting, TransCanada corrected FERC's stated presumption that TransCanada would be relying on the results of VY's study rather than performing its own study. TransCanada pointed out, for the licensing record, that stakeholders including FWS requested essentially the same hydroacoustic study of VY under the proceedings associated with securing a Vermont Certificate of Public Good with the objective of studying VY thermal discharge effects. TransCanada referenced the study as a possible supplemental dataset; not as a surrogate for a similar study under the auspices of TransCanada's overall study plan. We continue to contend that our current study plan will adequately meet the goals and objectives of the various study requests associated with downstream migrants.

It is important to note that in its March 1, 2013 letter, the FWS did not included the determination of *run magnitude* in their study objectives and goals for study requests 6 (Impact of Vernon Project Operations on Downstream Migration of Juvenile American Shad) and 10 (Evaluation of Timing of Downstream Migratory Movements of American Eels on the mainstem Connecticut River). Study request 6 identified timing, migration rates, survival rates and proportional route selection for juvenile shad, study request 10 identified timing and presence of American eel as the stated objectives. While FWS suggested the use of hydroacoustics as a suitable methodology, its stated purpose does not match the stated study objectives. In the study request 6 methodology, the term *magnitude* is first introduced directed at examining *"natural/wild fish" behavior* as well as providing "information on timing of migration upstream and downstream of Vernon Dam."

In response to this seemingly additional interest in *magnitude* TransCanada revised its Study Plan and submitted it on August 13, 2013 with a responsiveness summary to written comments. With respect to American eel downstream migration, there was no continued request for use of hydroacoustic technology in any of the American eel migration study comments. With respect to juvenile shad migration, TransCanada revised its study plan to incorporate a single beam hydroacoustic transducer as a means of estimating a relative number of shad passing the dam as the downstream run progresses through time (our interpretation of magnitude – or frequency). It will also support other study methods to identify the timing and duration of the run. Magnitude was not interpreted as quantifying the abundance of the out-migration population. Based upon the comments received from the FWS on August 29, 2013 and January 9, 2014, this interpretation appears to be accurate. However, if assessment of magnitude was meant to convey a desire to estimate population of downstream migrants using hydroacoustics above and below the dam (as originally requested in FWS's March 1, 2013 letter), then the cost of study 22 alone would skyrocket to $1.6-$1.7 million based upon preliminary designs.

In its August 29, 2013 comment letter, the FWS stated two arguments for adding a multi-unit array of hydroacoustic transducers to study 22 (as opposed to our proposed single-beam transducer):

1. The Service believes the way to gain the most comprehensive understanding of the juvenile shad outmigration and its relationship to project operations and environmental conditions is to have transducers at all possible passage routes (i.e., intake, fish bypasses, spillway gates). ***TC Response: We agree, in part, with this comment. Installing an array across the entire 955 feet of intake, forebay and spillway would be most comprehensive. TransCanada has examined what such an array would be in order to successfully implement this as requested. Based upon Normandeau***

Associate's significant experience with this technology, it would require a complex network of <u>more than 30 transducers</u> on the upstream side of the dam to cover each potential exit route and <u>add $530,000 - $600,000</u> to the existing estimated study cost of $360,000 - $420,000. This does not even begin to assess the downstream area as requested in the original March 1, 2013 FWS study request. We would contend that we are not required to perform a comprehensive study, such as this, to accomplish the goals and objectives of the study. The FWS suggested methodology including its study cost estimate ("Estimated cost for the study is expected to be up to $150,000, with the majority of costs associated with equipment (hydroacoustic gear, radio tags, radio receivers, and PIT readers) and related field work labor."***) appears to be based upon limited information and experience. The shutdown of VY, the absence of a thermal discharge or delay in study implementation until 2015 does not change our position.***

2. A single transducer near the fish pipe may provide sufficient insight into the timing, duration and relative abundance of the run, assuming that passage through the fish pipe is indicative of passage through other potential routes. However, a single transducer directed towards the fish pipe will not allow for an assessment of delay at the project. ***TC response: We also agree, in part, with this comment. Given the length of the study season and the continued operation of the surface passage during said season, it makes the most sense to monitor timing, duration and relative abundance at this location. With respect to assessment of delay, we have, for over 20 years, with FWS approval, conducted passage delay assessments utilizing radiotagging methods at Vernon Dam. Our study 22 methodology continues to rely on such a technique and therefore adding hydroacoustics for that purpose is not necessary. The shutdown of VY, the absence of a thermal discharge or delay in study implementation until 2015 does not change our position.***

In its January 9, 2014 comment letter, the FWS presented several arguments for the continued necessity or requirement to include a comprehensive hydroacoustic array as part of study 22:

1. While VY's thermal effluent certainly may influence downstream migration through the project area, our concerns continue to be with respect to how migration dynamics (i.e., frequency, timing, duration, etc.) are influenced by the Vernon Project, even in the absence of VY. ***TC Response: We believe our study 22 methodologies will utilize methods historically considered acceptable for determining frequency, timing and duration absent a costly multi-unit hydroacoustic array of transducers and the accompanying vast amount of data to process following the Fall 2015 field season. The shutdown of VY, the absence of a thermal discharge or delay in study implementation until 2015 does not change our position.***
2. As FERC is aware, hydroacoustics will be utilized to address the same objectives for potential juvenile shad impacts at both of FirstLight's projects. We believe it is important that similar approaches and techniques for American shad studies be used by the two licensees at their projects so that there can be consistent and comparative review by the Service, FERC, and other parties. (FWS representatives presented a similar argument at the November 26, 2013 meeting in response to a question from Mr. Ken Hogan.) ***TC Response: We disagree with this statement. Elements of the goals and objectives in both studies are similar, but with respect to the specific project structures and operation, they are very different. Within FL's study, the use of hydroacoustics is intended to estimate juvenile shad <u>entering and exiting</u> in the Canal and <u>estimates of the numbers entrained</u> at the Northfield Mountain Project. Using a similar technology will not in itself provide consistent and comparative review; they are***

wholly different project operations and structures, study objectives and designs. The shutdown of VY, the absence of a thermal discharge or delay in study implementation until 2015 does not change our position.

We feel that as currently proposed, and absent additional concerns relative to elimination of the thermal discharge due to the shutdown of VY, our Study Plan adequately and reasonably addresses the goals and objectives associated downstream migration. There is no additional rationale for requesting further revisions to the the August 13, 2013 final proposed study plan which incorporates additional hydroacoustics.

TransCanada appreciates the opportunity to provide additional comment on this issue as a result of the decision of Entergy to shut down VY and change river baseline conditions. If there are further questions regarding this matter, please contact me at 603-498-2851 to discuss further. Thank you for your consideration on this matter.

Sincerely,

John L. Ragonese
FERC License Manager