

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

TRANSCANADA HYDRO NORTHEAST INC.

Wilder Hydroelectric Project (FERC Project No. 1892-026)
Bellows Falls Hydroelectric Project (FERC Project No. 1855-045)
Vernon Hydroelectric Project (FERC Project No. 1904-073)

May 16, 2016 Updated Study Report
Status Summary of all Studies

May 16, 2016

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INTRODUCTION

TransCanada Hydro Northeast Inc. (TransCanada) is the owner and licensee of the Wilder Hydroelectric Project (FERC No. 1892) (Wilder Project), the Bellows Falls Hydroelectric Project (FERC No. 1855) (Bellows Falls Project), and the Vernon Hydroelectric Project (FERC No. 1904) (Vernon Project) on the Connecticut River in New Hampshire and Vermont. The Wilder Project, the Bellows Falls Project, and the Vernon Project are collectively referred to herein as the “TransCanada Projects.” The FERC licenses for these projects expire on April 30, 2019.

Background

On October 31, 2012, TransCanada filed with the Federal Energy Regulatory Commission (FERC or Commission) its Notice of Intent (NOI) to seek new licenses for each project, along with a separate Pre-Application Document (PAD) for each project.

FirstLight Hydro Generating Company (FirstLight) is the licensee of the Turners Falls Hydroelectric Project (FERC No. 1889) (the Turners Falls Project) and the Northfield Mountain Pumped Storage Project (FERC No. 2485) (the Northfield Mountain Project).¹ The current licenses for both the Turners Falls Project and the Northfield Mountain Project expire on April 30, 2018. On October 31, 2012, FirstLight filed with the Commission its NOI to seek new licenses for the Turners Falls Project and the Northfield Mountain Project, along with a single PAD for both projects (the FirstLight PAD).

On December 21, 2012, Commission Staff issued its Scoping Document 1 (SD1) for its National Environmental Policy Act analysis of the Connecticut River Projects. Commission Staff indicated in SD1 their intent to prepare a single environmental impact statement for the Connecticut River Projects. In January 2013 in various locations near the projects in New Hampshire, Vermont, and Massachusetts, Commission Staff held six project-specific scoping meetings and one additional scoping meeting to help identify the cumulative effects of licensing the Connecticut River Projects. On April 15, 2013, FERC issued its Scoping Document 2 (SD2), in response to verbal and written comments received at the scoping meetings as well as during the scoping process.

TransCanada received comments on the PADs as well as study requests for the TransCanada Projects from state and federal agencies, local officials, non-governmental organizations, and other interested parties (collectively, stakeholders). On April 16, 2013, TransCanada filed its Proposed Study Plan (PSP) pursuant to 18 Code of Federal Regulations (C.F.R.) § 5.11(a).² With its filing of the PSP, TransCanada included a study request responsiveness summary, identifying each study request, the study plan responsive to the request, and the rationale for why any particular study request was not adopted. The April 16,

¹ The TransCanada Projects, together with the Turners Falls Project and the Northfield Mountain Project, are collectively referred to as the “Connecticut River Projects.”

² Delays caused by FERC’s e-filing website prevented a filing on April 15, 2013.

2013, filing also included TransCanada's schedule for study plan meetings. TransCanada recognized that a single meeting would not be adequate to clarify and discuss its PSP. Therefore, it held a series of study plan meetings and discussions regarding its study plan proposals and received extensive feedback and participation from many interested stakeholders within resource-specific working groups.

Pursuant to 18 C.F.R. § 5.12, comments on the PSP were due on July 15, 2013 (i.e., within 90 days of the filing of the PSP). During the consultation process TransCanada received, discussed, and reviewed comments on its PSP from stakeholders. In addition, in response to comments received and consultation with stakeholders through the study plan meetings, TransCanada filed with FERC an Updated PSP on July 9, 2013.

TransCanada filed its Revised Study Plan (RSP) to address the effects of continued operation of the TransCanada Projects on August 14, 2013. The RSP includes 33 individual studies and data collection efforts. The RSP reflects comments received during the study plan meetings and discussions as well as formal comments filed by stakeholders with FERC. Each of the study plans is described in detail in the RSP.

On August 27, 2013, Entergy announced plans to decommission the Vermont Yankee Nuclear Power Plant (VY) during the fourth quarter of 2014. VY withdraws cooling water from, and discharges it back into, TransCanada's reservoir for the Vernon Project. The effect of decommissioning VY changed the baseline conditions at the Vernon Project.

In a September 13, 2013, Study Plan Determination (SPD), the Director delayed issuing determinations for 20 aquatic resource studies, pending a technical meeting on the issue of VY's decommissioning; however, determinations were issued for the remaining 13 studies unlikely to be affected by VY's continued operation or decommissioning. These studies were approved with or without modifications. In addition, four requested studies were determined to be not required in that SPD (Table 1-2).

On September 24, 2014, TransCanada filed a request for clarification on specific aspects of the determination, and the Director provided clarification on those aspects in a letter dated October 22, 2013.

The VY technical meeting was held on November 26, 2013, to identify aquatic resource studies: (1) not affected by operation of VY that could be implemented in 2014; (2) likely affected by operation of VY; and (3) that may need modification due to the decommissioning of VY.

On December 31, 2013, TransCanada submitted revisions to five study plans based on the November 26, 2013, technical meeting and on follow-up discussions with agencies and stakeholders. Minor revisions were made to the following study plans: 6 – *Water Quality*; 13 – *Tributary and Backwater Area Fish Access and Habitats*; 18 – *American Eel Upstream Passage Assessment*; 21 – *American Shad Telemetry*; and 23 – *Fish Impingement, Entrainment, and Survival*.

On February 21, 2014, the Director issued another SPD for those 20 aquatic resource studies and a “new” Vernon Hydroacoustic Study, that the SPD referred to as a “study requested but not adopted by TransCanada”. Fifteen of the 20 proposed studies were deferred until 2015 to allow for the new post-VY baseline condition. Five studies were determined to be not affected by the VY decommissioning and were approved without modification for implementation in 2014.

On March 24, 2014, TransCanada filed a request for rehearing arguing against the need to conduct the newly requested Vernon Hydroacoustic Study; however, stakeholder consultation was conducted and the requested study plan was filed on September 15, 2014. A technical meeting was held on November 20, 2014 to discuss issues surrounding the potential use of hydroacoustics at Vernon. Subsequently, on May 14, 2015 the Director issued an order eliminating the requirement to conduct the Vernon Hydroacoustic Study and approving the Updated RSP for Study 22 – Downstream Migration of Juvenile American Shad at Vernon that TransCanada had filed on February 3, 2015.

During 2013 and 2014, several studies were initiated, and on September 15, 2014, TransCanada filed its Initial Study Report (ISR), held an Initial Study Results Meeting on September 29, 2014, and filed the meeting summary on October 14, 2014. Written comments on the ISR were received from the US Fish and Wildlife Service (FWS) and The Nature Conservancy (TNC) on November 11, 2014. TransCanada filed a response to those comments on December 15, 2014.

On January 16, 2015, TransCanada filed a request to extend for one year the current terms of the project licenses for Wilder, Bellows Falls, and Vernon Hydroelectric Projects. On July 22, 2015 the Director granted the request and project licenses now expire on April 30, 2019.

In 2015, fishery and water quality studies, delayed by the VY closing, were initiated and several incomplete studies that began in 2014 continued.

An Updated Study Report (USR) was filed on September 14, 2015 and the Updated Study Results Meeting was held on October 1 – 2, 2015. A meeting summary was filed on October 14, 2015. Written comments on the USR were received from Mr. John Bruno, Connecticut River Watershed Council, New Hampshire Fish and Game Department, Vermont Department of Environmental Conservation, FWS and TNC. TransCanada filed a response to those comments on December 14, 2015. The Director issued an SPD on January 15, 2016 withholding staff determinations on stakeholder-requested study modifications to ILP Studies 3, 5, 13, 14, 15, and 18 pending completion of those studies.

Also on September 14, 2015 the Director issued a Revised Process Plan and Schedule for the Connecticut River Projects that identified March 1, 2016 as a “target” filing deadline for Updated Study Reports on studies yet to be completed. Any remaining study reports that could not be filed by March 1, 2016 would be identified along with a respective filing date.

A second USR was filed on March 1, 2016 and the associated Updated Study Results Meeting was held on March 17-18, 2016. A meeting summary was filed on March 31, 2016. Written comments on the second USR were received from numerous stakeholders and TransCanada intends to file a response to those comments by June 14, 2016.

On May 5, 2016 the Director issued a Revised Process Plan and Schedule for the Connecticut River Projects that identified May 15, 2016 (a Sunday, May 16 being the next business day) as the filing deadline for Updated Study Reports on most studies not completed by the March 1, 2016 filing; and August 1, 2016 as the filing deadline for the remaining studies that are not yet complete. Due to the need to conduct additional analysis of hydraulic and operations model data not all reports listed in the Commission's current schedule for filing by May 15 are ready to be filed. Commission staff was consulted on this issue. We have proposed a target date of June 17, 2016 for completion and distribution of those reports in order to provide the reports to stakeholders for review and consultation prior to the final study report filing deadline of August 1, 2016. Those studies and their status are included in the USR status summary table that follows.

May 16, 2016 Updated Study Report

This May 16, 2016 (third) Updated Study Report (USR):

1. Final ILP Study Reports filed separately:
 - i. Study 8 – Channel Morphology and Benthic Habitat Study Final Report
 - ii. Study 17 – Upstream Passage of Riverine Fish Species Study Report, and Appendices filed in a single zipfile
 - iii. Study 19 – American Eel Downstream Passage Assessment Study Report
 - iv. Study 22 – Downstream Migration of Juvenile American Shad at Vernon Study Report and Appendices filed in Excel format
 - v. Study 23 – Fish Impingement, Entrainment, and Survival Study Report
 - vi. Study 24 – Dwarf Wedgemussel Delphi Panel Report
 - vii. Study 33 – Traditional Cultural Properties Study Report
 - viii. Supporting Geodatabase with ArcGIS Shapefiles for Study 21, filed in a single zipfile.

2. Status Summary of all ILP Studies (herein).

Updated Study Results Meeting

In accordance with 18 C.F.R. § 5.15(c)(2), TransCanada has scheduled the following meeting and meeting agenda to discuss the study results and TransCanada or stakeholder proposals, if any, to modify the study plan in light of the progress of the study plan and data collected.

- June 1, 2016, 9:00 a.m. – 4:30 p.m. TransCanada’s conference room in TransCanada’s River Control Center, 255 Wilder Dam Road, Wilder, VT.

Updated Study Report Meeting Agenda – Wednesday, June 1, 2016

- 9 am – Introductions
- 9:15 - Summary of the following ILP Studies:

Study No.	Study Title
17	Upstream Passage of Riverine Fish Species Assessment
19	American Eel Downstream Passage Assessment
22	Downstream Migration of Juvenile American Shad – Vernon
Break ~ 11:00 – 11:15	
23	Fish Impingement, Entrainment and Survival Study
24	Dwarf Wedgemussel and Co-occurring Mussel Study – Delphi Panel Report
Lunch ~ 12:45 – 1:15 pm - brought in	
33	Cultural and Historic Resources Studies and Traditional Cultural Properties Report
8	Channel Morphology and Benthic Habitat Study Final Report
9	Instream Flow Study – consultation
Questions and wrap up	

WebEx Meeting Access Information

Hydro Relicensing Updated Study Report Mtg. 06-01-16

Wednesday, June 1, 2016

9:00 am | Eastern Daylight Time (New York, GMT-04:00) | 8 hrs

[Join WebEx meeting \(hyperlink to Webex\)](#)

Meeting number: 924 818 853

Meeting password: Abcde12345

Join by phone

1-866-469-3239 Call-in toll-free number (US/Canada)

Access code: 924 818 853

Status Summary of All ILP Studies

The table below summarizes the current status of all 33 ILP studies and provides an anticipated schedule for completion for each study. Additional comments on the Process Plan and Schedule follow the table.

Study No.	Study Title	Status as of 05/16/2016	Next Steps and Remaining Activities	Anticipated Filing Deadline
1	Historical Riverbank Position and Erosion Study	Report filed 03/01/2016	Response to comments that were received by May 2, 2016	n/a
2	Riverbank Transect Study	In progress	Completion of data analysis, incorporate Operations Model output into analysis, finalize and file report	08/01/2016
3	Riverbank Erosion Study	In progress	Completion of data analysis, incorporate Operations Model output into analysis, finalize and file report	08/01/2016
4	Hydraulic Modeling Study	Report filed 03/01/2016	Response to comments that were received by May 2, 2016	n/a
5	Operations Modeling Study	In progress	Generate model output for studies that remain in progress, analyze sub-hourly effects as needed, and analyze alternative operating scenarios proposed.	08/01/2016 Final report with alternatives analysis pending consultation on resource studies
6	Water Quality Study	Report filed 03/01/2016	Response to comments that were received by May 2, 2016	n/a
7	Aquatic Habitat Mapping Study	Initial Report filed 09/15/2014 Final Report filed 03/02/2015	None	n/a

Study No.	Study Title	Status as of 05/16/2016	Next Steps and Remaining Activities	Anticipated Filing Deadline
8	Channel Morphology and Benthic Habitat Study	Initial report filed 03/02/2015 Revised report being filed in this USR May 16, 2016	Response to comments	Presently
9	Instream Flow Study	Interim Report filed 03/01/2016	Stakeholder consultation on habitat time series, dual flow analysis, incorporating DWM HSC's. and Report addendum to follow	Pending stakeholder feedback FERC current schedule 08/01/2016
10	Fish Assemblage Study	Report filed 03/01/2016	Response to comments that were received by May 2, 2016	n/a
11	American Eel Survey	Report filed 03/01/2016	Response to comments that were received by May 2,	n/a
12	Tessellated Darter Survey	Report filed 03/01/2016	Response to comments that were received by May 2,	n/a
13	Tributary and Backwater Fish Access and Habitats Study	[Preliminary] Report filed 09/14/2015	Further analysis and final report based upon hydraulic and operations model output	06/17/2016
14 and 15	Resident Fish Spawning in Impoundments Study and Resident Fish Spawning in Riverine Sections Study	Consolidated Interim Report filed 03/01/2016.	Further analysis and final report based upon hydraulic and operations model output	06/17/2016
16	Sea Lamprey Spawning Assessment	Interim Report filed 03/01/2016	Further analysis and final report based upon hydraulic and operations model output	06/17/2016
17	Upstream Passage of Riverine Fish Species Assessment	Report being filed in this USR May 16, 2016	Pending comments and stakeholder feedback	Presently

Study No.	Study Title	Status as of 05/16/2016	Next Steps and Remaining Activities	Anticipated Filing Deadline
18	American Eel Upstream Passage Assessment	Report filed 03/01/2016	Response to comments that were received by May 2,	n/a
19	American Eel Downstream Passage Assessment	Report being filed in this USR May 16, 2016	Pending comments and stakeholder feedback	Presently
20	American Eel Downstream Migration Timing Assessment	In progress	Complete and file report	06/17/2016
21	American Shad Telemetry Study - Vernon	In progress	Pending comments and stakeholder feedback	06/17/2016
22	Downstream Migration of Juvenile American Shad - Vernon	Report being filed in this USR May 16, 2016	Pending comments and stakeholder feedback	Presently
23	Fish Impingement, Entrainment, and Survival Study	Report being filed in this USR May 16, 2016	Pending comments and stakeholder feedback	Presently
24	Dwarf Wedgemussel and Co-occurring Mussel Study	Delphi panel report being filed in this USR May 16, 2016. Phase 1 and Phase 2 study reports were filed 09/15/2014 and 03/02/2015, respectively.	Habitat Suitability Index (or Curve) finalization; stakeholder consultation, and modeling, and final report.	HSC finalization and modeling pending stakeholder feedback 08/01/2016 Final Report
25	Dragonfly and Damselfly Inventory and Assessment	In progress	Complete analysis based upon hydraulic and operations model output and final report	06/17/2016
26	Cobblestone and Puritan Tiger Beetle Survey	In progress	Complete analysis based upon hydraulic and operations model output and final report	06/17/2016

Study No.	Study Title	Status as of 05/16/2016	Next Steps and Remaining Activities	Anticipated Filing Deadline
27	Floodplain, Wetland, Riparian, and Littoral Vegetation Habitats Study	Preliminary Report filed 09/14/2015	Complete analysis based upon hydraulic and operations model output and final report	06/17/2016
28	Fowler's Toad Survey	In progress	Complete analysis based upon operations model output and final report	06/17/2016
29	Northeastern Bulrush Survey	In progress	Complete analysis based upon hydraulic and operations model output and final report	06/17/2016
30	Recreation Facility Inventory and Use & Needs Assessment	Report filed 03/01/2016	Response to comments received by May 2, 2016	n/a
31	Whitewater Boating Flow Assessment - Bellows Falls and Sumner Falls	Report filed 03/01/2016	Response to comments received by May 2, 2016	n/a
32	Bellows Falls Aesthetic Flow Study	Report filed 03/01/2016	Response to comments received by May 2, 2016 and report revision if needed	n/a
33	Cultural and Historic Resources Study	In progress Traditional Cultural Properties Report being filed in this USR May 16, 2016. Phase IB Archaeological Identification Surveys – Wilder, Bellows Falls, and Vernon Projects filed March 23, 2016	Pending comments and stakeholder feedback on TCP Report and Phase 1B surveys Phase II Archaeological Site Evaluation Surveys – Wilder and Vernon Projects.	08/01/2016 Phase II Survey Report