



US Northeast Hydro Region
One Harbour Place, Suite 330
Portsmouth NH 03801

tel 603-559-5513
web www.transcanada.com

August 1, 2016

VIA ELECTRONIC FILING

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

**Re: TransCanada Hydro Northeast Inc.'s August 1, 2016 Updated Study Report
Project Nos. 1892-026, 1855-045, and 1904-073**

Dear Secretary Bose:

TransCanada Hydro Northeast Inc. ("TransCanada") is the owner and licensee of the Wilder Hydroelectric Project (FERC No. 1892), the Bellows Falls Hydroelectric Project (FERC No. 1855), and the Vernon Hydroelectric Project (FERC No. 1904). On October 31, 2012, TransCanada initiated the Integrated Licensing Process ("ILP") by filing with the Federal Energy Regulatory Commission ("FERC" or "Commission") its Notice of Intent to seek new licenses for each project, along with a separate Pre-Application Document for each project. The current licenses for these projects each expire on April 30, 2019.

With this filing, TransCanada submits the August 1, 2016 Updated Study Report (USR). This USR includes: five study reports that were incomplete for the May 16, 2016 USR filing; two final study reports for which interim reports were filed March 1, 2016; and four revised (final) study reports in response to comments received during the comment period for the March 1, 2016 USR. DVDs containing supporting video footage for ILP Study 32 – Bellows Falls Aesthetic Flow Study, 2016 Supplemental, are being filed with the Commission by courier.

In addition to Study Reports, the USR provides a summary status table with a schedule for completion of studies and reports yet to be completed and supplementary information related to previously filed reports.

This USR includes the following electronic documents:

1. Status Summary of all Studies

2. Study Reports:

- i. Study 2/3 – Riverbank Transect and Riverbank Erosion Study (consolidated report); Appendix A filed in zipfile format; Appendices B-D filed in pdf format; Appendix E filed in Excel (zipfile) format; and Appendix C – Supporting Geodata in kmz (zipfile) and ArcGIS (zipfile) format.
- ii. Study 5 – Operations Modeling Study; and Appendix A in Excel format.
- iii. Study 6 – Water Quality Monitoring Study - Revised Final Report (addresses stakeholder comments); and Appendix N – Revised Supporting Geodata in kmz and ArcGIS (zipfile) format.
- iv. Study 10 – Fish Assemblage Study - Revised Final Report (addresses stakeholder comments); and Appendices A-J in Excel (zipfile) format.
- v. Study 12 – Tessellated Darter Study - Revised Final Report (addresses stakeholder comments); Appendices A-E in Excel format; and Appendix F – Supporting Geodata in kmz and ArcGIS (zipfile) format.
- vi. Study 14/15 – Resident Fish Spawning in Impoundments and Riverine Sections – Final Report (interim report was filed March 1, 2016); and Appendices E-F in Excel format.
- vii. Study 16 – Sea Lamprey Spawning Assessment – Final Report (interim report was filed March 1, 2016); Appendices A-F in Excel (zipfile) format; and Appendix H – Supporting Geodata in kmz and Arc (zipfile) format.
- viii. Study 21 – American Shad Telemetry Study; Appendices A – D in Excel format; and Appendix E – Supporting Geodata in kmz and ArcGIS (zipfile) format.
- ix. Study 27 – Floodplain, Wetland, Riparian, and Littoral Vegetation Habitats Study
- x. Study 32 – Bellows Falls Aesthetic Flow Study – Revised Final Report (address stakeholder comments); and supporting video on DVD filed with the FERC by courier.
- xi. Study 33 – Archaeological Phase II Technical Report Determination of Eligibility (NH) (Privileged).

Two other study reports were initially to be included in this USR but further consultation with stakeholders and analysis is necessary to complete these studies. These reports will be filed as soon as possible after this work is complete:

- Study 9 – Instream Flow Study (interim report was filed March 1, 2016)
- Study 24 – Dwarf Wedgemussel and Co-Occurring Mussel Survey - HSC Report (Phase 1 and Phase 2 reports were filed September 15, 2014, and March 2, 2015, respectively)

In accordance with 18 C.F.R. § 5.15(c)(2), TransCanada will hold a meeting to discuss its progress in implementing the study plan and schedule, and the data collected, including any variances from the study plan and schedule if necessary. Based upon consultation with FERC staff, TransCanada will hold its study meeting from 9:00 am – 4:30 pm on Wednesday, August 24, 2016 at a location to be determined (still pending) and later communicated. Due to

Kimberly D. Bose, Secretary

August 1, 2016

Page | 3

scheduling conflicts, the meeting date beyond 15 days of filing these reports was necessary. However, we will endeavor to complete and file a meeting summary by August 31, 2016. The proposed meeting agenda is attached to this letter. WebEx sessions have been created for remote audio and video attendees. Please use the information on the WebEx Meeting included below the proposed meeting agenda attached to this letter.

If there are any questions regarding the information provided in this filing or the process, please contact John Ragonese at 603-498-2851 or by emailing john_ragonese@transcanada.com.

Sincerely,



John L. Ragonese
FERC License Manager

Attachments:

1. Proposed Study Meeting Agenda and Web Ex information
2. August 1, 2016 Updated Study Report

cc: Interested Parties List (distribution through email notification of availability and download from TransCanada's relicensing web site www.transcanada-relicensing.com)

Updated Study Report Meeting Agenda

August 24, 2016

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

Study No.	Study Title
5	Operations Model Study
21	American Shad Telemetry (upstream, downstream passage, spawning) Study
14/15	Resident Fish Spawning in Impoundments and Riverine Sections (consolidated report)
Break	
16	Sea Lamprey Spawning Assessment
32	Bellows Falls Aesthetic Flow Study – Supplemental Low Flow Assessment
27	Floodplain, Wetland, Riparian, and Littoral Vegetation Habitats Study
Lunch	
2/3	Riverbank Transect and Riverbank Erosion Studies (consolidated report)

WebEx Information:

[Join WebEx meeting](#)

Meeting number (access code): 924 490 938

Meeting password: Abcde12345

Join by phone

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

001-800-514-3550 Mexico toll free

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)

August 1, 2016 Updated Study Report
Status Summary of all Studies

August 1, 2016

[This page intentionally left blank.]

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 USR Filings

An Updated Study Report (USR) was filed on September 14, 2015 and the Updated Study Results Meeting was held on October 1 and 2, 2015. A meeting summary was filed on October 14, 2015. Written comments on the USR were received and TransCanada filed a response to those comments on December 14, 2015. The Director issued a Study Plan Determination (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 and 18, 2016. A meeting summary was filed on March 31, 2016. Written comments on the second USR were received from numerous stakeholders and TransCanada intend filed a response to those comments on 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 as part of the third USR on May 16, 2015 were filed at that time. The associated Updated Study Results Meeting was held on June 1, 2016 and the meeting summary was filed on June 14, 2016. Written comments on the May 16, 2016 USR were received from numerous stakeholders by July 14, 2016 and TransCanada intends to file a response to those comments on August 15, 2016 (the business day following the August 13, 2016 Saturday due date).

Commission staff was consulted about study reports that could not be filed by May 15, 2016 and TransCanada 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.

On June 17, 2016 TransCanada filed the fourth USR which included six study reports and one revised report in response to comments on the March 1, 2016 USR. In consultation with Commission staff and stakeholders, the associated Updated Study Results Meeting was held on July 15, 2016, after the 15-day due date. A meeting summary for the June 17, 2016 USR is being filed simultaneously to this August 1, 2016 USR. In consultation with Commission staff, the comment period for the fourth (June 17, 2016) and this fifth (August 1, 2016) USR will remain open until September 30, 2016, the deadline for study reports filed on or before this August 1, 2016 filing. The Study Report Meeting for this August 1, 2016 USR filing will be held on August 24.

Two other study reports (Studies 9 and 24) were initially to be included in this USR but consultation with stakeholders needed to complete study analysis remains ongoing. These reports will be filed as soon as possible after consultation and once remaining analysis is complete. Those studies and their status are included in the USR status summary table that follows.

August 1, 2016 Updated Study Report

This August 1, 2016 (fifth) Updated Study Report (USR) includes:

1. ILP Study Reports filed separately:

- i. Study 2/3 – Riverbank Transect and Riverbank Erosion Study (consolidated report); Appendix A filed in zipfile format; Appendices B-D filed in pdf format; Appendix E filed in Excel (zipfile) format; and Appendix C – Supporting Geodata in kmz (zipfile) and ArcGIS (zipfile) format
- ii. Study 5 – Operations Modeling Study; and Appendix A in Excel format.
- iii. Study 6 – Water Quality Monitoring Study - Revised Final Report (addresses stakeholder comments); and Appendix N – Revised Supporting Geodata in kmz and ArcGIS (zipfile) format.
- iv. Study 10 – Fish Assemblage Study - Revised Final Report (addresses stakeholder comments); and Appendices A-J in Excel (zipfile) format.
- v. Study 12 – Tessellated Darter Study - Revised Final Report (addresses stakeholder comments); Appendices A-E in Excel format; and Appendix F – Supporting Geodata in kmz and ArcGIS (zipfile) format.
- vi. Study 14/15 – Resident Fish Spawning in Impoundments and Riverine Sections – Final Report (interim report was filed March 1, 2016); and Appendices E-F in Excel format.
- vii. Study 16 – Sea Lamprey Spawning Assessment – Final Report (interim report was filed March 1, 2016); Appendices A-F in Excel (zipfile) format; and Appendix H – Supporting Geodata in kmz and Arc (zipfile) format.

- viii. Study 21 – American Shad Telemetry Study; Appendices A–D in Excel format; and Appendix E – Supporting Geodata in kmz and ArcGIS (zipfile) format.
- ix. Study 27 – Floodplain, Wetland, Riparian, and Littoral Vegetation Habitats Study
- x. Study 32 – Bellows Falls Aesthetic Flow Study – Revised Final Report (address stakeholder comments); and supporting video on DVD filed separately with the FERC by courier.
- xi. Study 33 – Archaeological Phase II Technical Report Determination of Eligibility (NH) (Privileged)

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

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.

Study No.	Study Title	Status as of 08/01/2016	Next Steps and Remaining Activities	Anticipated Filing Deadline
1	Historical Riverbank Position and Erosion Study	Report filed 03/01/2016. Response to comments filed 06/14/2016.	None	n/a
2 and 3	Riverbank Transect Study and Riverbank Erosion Study	Report being filed 08/01/2016.	None, pending stakeholder comments on final report (due 09/30/2016).	Presently
4	Hydraulic Modeling Study	Initial Report filed 03/01/2016. Final Report filed 06/17/2016.	None, pending stakeholder comments on final report (due 09/30/2016).	n/a
5	Operations Modeling Study	Report being filed 08/01/2016.	None, pending stakeholder comments on final report (due 09/30/2016). If needed, analyze sub-hourly effects, and analyze alternative operating scenarios proposed.	Presently Alternatives analysis pending consultation on resource studies.
6	Water Quality Study	Initial Report filed 03/01/2016. Final report being filed 08/01/2016.	None, pending stakeholder comments on final report (due 09/30/2016).	n/a

Study No.	Study Title	Status as of 08/01/2016	Next Steps and Remaining Activities	Anticipated Filing Deadline
7	Aquatic Habitat Mapping Study	Initial Report filed 09/15/2014. Final Report filed 03/02/2015.	None	n/a
8	Channel Morphology and Benthic Habitat Study	Initial report filed 03/02/2015. Final Report filed 05/16/2016.	Address stakeholder comments on final report, received as of 07/14/2016.	Response to stakeholders due 08/13/2016.
9	Instream Flow Study	Interim Report filed 03/01/2016.	Stakeholder feedback and consultation on habitat time series, dual flow analysis, and incorporating DWM HSC's. Report addendum to follow feedback and model runs.	Pending additional stakeholder feedback on critical reach analysis. Initial feedback received at the July 15, 2016 study consultation and by letter on July 22, 2016.
10	Fish Assemblage Study	Initial Report filed 03/01/2016. Final Report being filed 08/01/2016.	None, pending stakeholder comments on final report (due 09/30/2016).	Presently
11	American Eel Survey	Report filed 03/01/2016. Response to comments filed 06/14/2016.	None	n/a
12	Tessellated Darter Survey	Initial Report filed 03/01/2016. Final Report being filed 08/01/2016.	None, pending stakeholder comments on final report (due 09/30/2016).	Presently

Study No.	Study Title	Status as of 08/01/2016	Next Steps and Remaining Activities	Anticipated Filing Deadline
13	Tributary and Backwater Fish Access and Habitats Study	[Preliminary] Report filed 09/14/2015. Final Report filed 06/17/2016.	None, pending stakeholder comments on final report (due 09/30/2016).	n/a
14 and 15	Resident Fish Spawning in Impoundments Study and Resident Fish Spawning in Riverine Sections Study	Consolidated Interim Report filed 03/01/2016. Consolidated Final Report being filed 08/01/2016	None, pending stakeholder comments on final report (due 09/30/2016).	Presently
16	Sea Lamprey Spawning Assessment	Interim Report filed 03/01/2016. Final Report being filed 08/01/2016.	None, pending stakeholder comments on final report (due 09/30/2016).	Presently
17	Upstream Passage of Riverine Fish Species Assessment	Report Filed 05/16/2016.	Address stakeholder comments received as of 07/14/2016.	Response to stakeholders due 08/13/2016.
18	American Eel Upstream Passage Assessment	Report filed 03/01/2016. Response to comments filed 06/14/2016.	Additional field work per stakeholder consultation on July 15, and July 20, 2016 is in progress.	Fall/Winter 2016
19	American Eel Downstream Passage Assessment	Report Filed 05/16/2016.	Address stakeholder comments on report, received as of 07/14/2016.	Response to stakeholders due 08/13/2016.
20	American Eel Downstream Migration Timing Assessment	Report filed 06/17/2016.	Address stakeholder feedback (due by 09/30/2016).	n/a
21	American Shad Telemetry Study - Vernon	Report being filed 08/01/2016.	Address stakeholder feedback (due by 09/30/2016).	Presently

Study No.	Study Title	Status as of 08/01/2016	Next Steps and Remaining Activities	Anticipated Filing Deadline
22	Downstream Migration of Juvenile American Shad - Vernon	Report Filed 05/16/16	Address stakeholder comments received as of 07/14/2016.	Response to stakeholders due 08/13/2016.
23	Fish Impingement, Entrainment, and Survival Study	Report Filed 05/16/16	Address stakeholder comments received as of 07/14/2016.	Response to stakeholders due 08/13/2016.
24	Dwarf Wedgemussel and Co-occurring Mussel Study	Delphi Panel Report filed 05/16/2016. Phase 1 and Phase 2 study reports were filed 09/15/2014 and 03/02/2015, respectively.	Address stakeholder comments on Delphi Panel Report received as of 07/14/2016. Habitat Suitability Index (or Curve) finalization; stakeholder consultation, modeling, and final report.	Response to stakeholders due 08/13/2016. HSC finalization and modeling pending additional stakeholder feedback.
25	Dragonfly and Damselfly Inventory and Assessment	Report filed 06/17/2016.	Address stakeholder feedback (due by 09/30/2016).	Response to stakeholders due 10/30/2016.
26	Cobblestone and Puritan Tiger Beetle Survey	Report filed 06/17/2016.	Address stakeholder feedback (due by 09/30/2016).	Response to stakeholders due 10/30/2016.
27	Floodplain, Wetland, Riparian, and Littoral Vegetation Habitats Study	Preliminary Report filed 09/14/2015. Final Report being filed 08/01/2016.	None, pending stakeholder comments on final report (due 09/30/2016).	Presently
28	Fowler's Toad Survey	Report filed 06/17/2016.	Address stakeholder feedback (due by 09/30/2016).	Response to stakeholders due 10/30/2016.
29	Northeastern Bulrush Survey	Report filed 06/17/2016.	Address stakeholder feedback (due by 09/30/2016).	Response to stakeholders due 10/30/2016.

Study No.	Study Title	Status as of 08/01/2016	Next Steps and Remaining Activities	Anticipated Filing Deadline
30	Recreation Facility Inventory and Use & Needs Assessment	Report filed 03/01/2016. Response to comments filed 06/14/2016.	None	n/a
31	Whitewater Boating Flow Assessment - Bellows Falls and Sumner Falls	Report filed 03/01/2016. Response to comments filed 06/14/2016.	None	n/a
32	Bellows Falls Aesthetic Flow Study	Report filed 03/01/2016. Response to comments filed 06/14/2016. Revised report being filed 08/01/2016.	None, pending stakeholder comments on final report (due 09/30/2016).	Presently
33	Cultural and Historic Resources Study	Traditional Cultural Properties (TCP) Initial Report filed 05/16/2016. Phase IB Archaeological Identification Surveys – Wilder, Bellows Falls, and Vernon Projects filed March 23, 2016	Address stakeholder comments on TCP report received as of 07/14/2016. Phase II Archaeological Site Evaluation Surveys – Wilder and Vernon Projects.	Response to stakeholders on TCP report due 08/13/2016. Additional consultation with Tribes to be scheduled. NH Phase II Survey Report – presently.