United States
Department of Energy

Office of Electricity Delivery and Energy Reliability

Vermont Electric Power Company, Inc., As Agent for the Joint Owners of the Highgate Project

OE Docket No. PP-82-4

Presidential Permit Amendment
No. PP-82-4

May 3, 2016

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Vermont Electric Power Company, Inc., As Agent for the Joint Owners of the Highgate Project

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I. BACKGROUND

The Department of Energy (DOE) has the responsibility for implementing Executive Order (E.O.) 10,485, as amended by E.O. 12,038, which requires the issuance of a Presidential permit for the construction, operation, maintenance, or connection of electric transmission facilities at the United States international border.[1] DOE may issue such a permit if it determines that the permit is in the public interest and after obtaining favorable recommendations from the U.S. Departments of State and Defense.

On May 14, 1985, DOE issued Presidential permit PP-82 to the Joint Owners of the Highgate Project[2] (Joint Owners), authorizing it to construct, operate, maintain, and connect electric transmission facilities at the international border of the United States and Canada. The PP-82 facilities, also known as the Highgate Project, consist of a 120,000 volt (120-kV) transmission line that connects the Hydro-Quebec electric system in Canada border in northwestern Vermont and extends approximately 7.5 miles to Highgate Substation located in Highgate, Vermont. Highgate Substation contains a back-to-back converter station that converts alternating current to direct current and then back to alternating current.

On March 1, 1994, DOE issued Presidential Permit PP-82-2 which increased the allowable rate of transmission over the PP-82 facilities in the import mode from 200 megawatts (MW) to 225 MW, subject to certain operating conditions and limitations.

On February 7, 2005, DOE issued Presidential Permit PP-82-3 which increased the allowable rate of transmission over the PP-82 facilities in the import mode from 225 MW to 250 MW, subject to certain operating conditions and limitations.

On November 4, 2015, Vermont Electric Power Company, Inc. (VELCO), as operating-and-management agent for the Joint Owners, filed an application to amend PP-82. In its application VELCO requested that DOE amend PP-82-3 by removing the last sentence of Article 3's preamble and paragraphs a through d of that article which establish operating conditions and limitations that are no longer necessary for two reasons. First, VELCO asserted that it has made transmission reinforcements to the

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[1] The authority to administer the International Electricity Regulatory Program through the regulation of electricity exports and the issuance of Presidential permits has been delegated to the Assistant Secretary for the Office of Electricity Delivery and Energy Reliability (OE), in Redelegation Order No. 00-006.05 issued on November 17, 2014.

2 The Joint Owners of the Highgate Project originally included Central Vermont Public Service Corp., Vermont Public Power Supply Authority, Green Mountain Power Corp. (GMP), Vermont Electric Generation and Transmission Cooperative, Inc., Village of Johnson Electric Light Department, Rochester Electric Light and Power Co., Inc., Citizens Utilities Company, and the City of Burlington Electric Light Department. The current Joint Owners include GMP, Vermont Public Power Supply Authority, City of Burlington Electric Department, Village of Johnson Water and Light Department, and Vermont Electric Cooperative, Inc.

Highgate Facilities and other transmission facilities in northern Vermont since 1994. Second, ISO New England Inc. (ISO-NE), as the Regional Transmission Organization (RTO) for the six-state New England region, manages real-time operation of these facilities through its operating procedures.

Furthermore VELCO requested that DOE make note of the change of interest ownership in the Joint Owners by acknowledging that CVPS is no longer a Joint Owner and recognize that GMP's ownership stake has increased to 82.3%. Joint Ownership in the Highgate Project would now be:

City of Burlington Electric Department	7.70%
Vermont Electric Cooperative, Inc.	0.22%
GMP	82.3%
Vermont Public Power Supply Authority	9.36%
Village of Johnson Water and Light Department	0.43%

DOE issued a notice of VELCO's application in the *Federal Register* on December 16, 2015 (80 Fed. Reg. 78208), requesting that any comments, protests, or motions to intervention be filed by February 16, 2016. None were received.

II. DISCUSSION

In support of their application, VELCO submitted a report that describes the analysis conducted to support the recommendation to remove the existing operating conditions due to several system and market condition changes that have occurred since 1994. The report indicates that approximately 460 MVAr of capacitor banks, not including capacitor banks installed on the low voltage system, have been installed in addition to the 210 MVAr modeled in a prior study. More significantly, several dynamic reactive devices have been installed, which removed the reliance on fast post-contingency switching of capacitor banks. In total, approximately 300 MVAr of dynamic reactive support were added to the transmission system in the last few years, not including synchronous condensers installed on the low voltage system. Finally, the transmission network has been strengthened over the years to ensure the system performs adequately based on the planning standards of the North American Electric Reliability Corporation (NERC) and regional reliability standards. This stronger system also has the effect of reducing reliance on specific capacitor bank dispatch and post-contingency switching of capacitor banks. Therefore, paragraph a. of Article 3 in PP-82-3 is no longer necessary.

ISO-NE market rules have been put in place to ensure that the system is operated securely and economically. Dispatch rules described in the ISO-NE tariff and operating procedures determine which resources need to be reduced to prevent system concerns. These market rules supersede VELCO's operating procedures. The ISO-NE dispatch rules and standard operating procedure allows the operators to adjust and optimize the system's configuration based on specific set of circumstances. As a result, paragraph b. Article 3 in PP-82-3 is no longer necessary.

In the current analysis, the Comerford converter was not modeled because it has

been retired. Therefore, the operating agreement discussed in the 1992 study no longer applies. Results of the current study did not show any exposure to voltage collapse. Therefore, paragraph c. of Article 3 in PP-82-3 no longer applies.

The modeling assumptions in the most recent analysis demonstrate that the system can comfortably accommodate higher imports. The results of this current study showed that voltage performance was acceptable with a large reactive margin and no exposure to voltage collapse with a transmission facility out of service. Therefore, paragraph d. of Article 3 in PP-82-3 no longer applies.

The results of the current analysis show that system performance is acceptable with Highgate cross-border flows of 225 MW and 250 MW. As determined by ISO-NE, the study supports the current Hydro Québec TTC request of 225 MW, and would support a maximum 250 MW Total Transfer Capability (TTC) when requested and as currently authorized under Presidential Permit PP-82-3.

DOE staff have determined that the analysis conducted to support the recommendation to remove the above conditions due to several system and market changes that have occurred since 1994 is sufficient and the operating protocols outlined in Article 3 of the prior PP-82-3 permit are not applicable due to these changes. In addition, removal of conditions will not have a negative impact on the reliability of the United States electric grid if operated consistent with both ISO-NE and NERC policies and standards, terms and conditions of the Presidential permit and other regulatory and statutory requirements.

DOE has consistently expressed its expectation that owners of international transmission facilities provide access across the border in accordance with the principles of comparable open access and non-discrimination contained in the Federal Power Act and articulated in the Federal Energy Regulatory Commission's Order No. 888, *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities.*[1] The facilities to be operated by the Joint Owners are deemed suitable for third party access to transmit electricity between the United States and Canada.

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[1] *Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities,* Order No. 888, 61 Fed. Reg. 21,540 (May 10, 1996), FERC Stats. & Regs. ¶ 31,036 (1996), *order on reh'g*, Order No. 888-A, 62 Fed. Reg. 12,274 (Mar. 14, 1997), FERC Stats. & Regs. ¶ 31,048 (1997), *order on reh'g*, Order No. 888-B, 81 FERC ¶ 61,248 (1997), *order on reh'g*, Order No. 888-C, 82 FERC ¶ 61,046 (1998), *aff'd in relevant part sub nom. Transmission Access Policy Study Group v. FERC*, 225 F.3d 667 (D.C. Cir. 2000) (*TAPS v. FERC*), *aff'd sub nom. New York v. FERC*, 535 U.S. 1 (2002).

III. FINDINGS AND DECISION

In determining whether issuance of a Presidential permit is in the public interest, DOE considers the environmental impacts of the proposed project pursuant to the National Environmental Policy Act (NEPA), determines the project's impact on electric reliability, and weighs any other factors that DOE may also consider relevant to the public interest.

DOE has determined that this action is among those classes of actions not normally requiring preparation of an environmental assessment or an environmental impact statement and, therefore, is eligible for two categorical exclusions (CX) under DOE NEPA Implementing Procedures in 10 CFR Part 1021. The first CX that applies is at B4.6 of Appendix B to Subpart D of the procedures. This CX is for additions or modifications to electric power transmission facilities that would not affect the environment beyond the previously developed facility area including, but not limited to, switchyard rock grounding upgrades, secondary containment projects, paving projects, seismic upgrading, tower modifications, changing of insulators, and replacement of poles, circuit breakers, conductors, transformers, and crossarms. The second CX is found a paragraph A13 appendix A to Subpart D of the procedures and it applies to for administrative, organization, or procedural orders. DOE also assessed the impact that the operation of the proposed international transmission facilities would have on the reliability of the U.S. electric power supply system. Based on the information in the docket and as discussed above, DOE determined that the installation and operation of the proposed international transmission facilities by the Joint Owners, as conditioned herein, would not adversely impact the reliability of the U.S. electric power supply system.

The Secretary of State and the Secretary of Defense concur with the issuance of the amended Permit to the Joint Owners.

Based upon the above discussion and analysis, DOE determines that the issuance of a Presidential permit to the Joint Owners is consistent with the public interest.

IV. DATA COLLECTION AND REPORTING

The responsibility for the data collection and reporting under Presidential permits authorizing electric transmission facilities at the U.S. international border and orders authorizing electricity exports to a foreign country has been transferred from OE to DOE's Energy Information Administration (EIA). The Joint Owners are required to submit Form EIA-111 "Quarterly Electricity Imports and Exports Report" as specified by EIA. The Joint Owners are instructed to follow EIA instructions in utilizing the Data xChange Community Portal. Questions regarding the data collection and reporting requirements can be directed to EIA by email at EIA4USA@eia.gov or by phone at 1-855-342-4872.

V. ORDER

Pursuant to the provisions of Executive Order 10,485, as amended by E.O. 12,038, and the regulations issued thereunder (Title 10, Code of Federal Regulations, Part 205), permission is granted to the Joint Owners of the Highgate Project, to construct, operate, maintain, and connect electric transmission facilities at the international border of the United States and Canada, as further described in Article 2 below, upon the following conditions:

Article 1. The facilities herein described shall be subject to all conditions, provisions and requirements of this Permit. This Permit may be modified or revoked by the President of the United States without notice, or by DOE after public notice, and may be amended by DOE after proper application thereto.

Article 2. The facilities covered by and subject to this Permit shall include the following facilities and all supporting structures within the right-of-way occupied by such facilities:

> One three-phase, alternating current transmission line, designed and constructed for 345 kV use but operated at 120-kV, and a back-to-back converter station. The transmission line extends approximately 7.58 miles from the U.S.-Canada border near Franklin, Vermont, to the converter in Highgate, Vermont. The converter station converts electricity from the Hydro-Quebec electric system to direct current and then back to alternating current to allow connection to the existing VELCO 115-kV transmission system.

Article 3. The facilities described in Article 2 above, shall be designed and operated in accordance with all policies and standards of the NERC, Regional Entities, Reliability Coordinators, and independent system operators, or their successors, as appropriate, on such terms as expressed therein and as such criteria, standards, and guides may be amended from time to time.

Furthermore, the facilities described in Article 2 shall be operated in such a manner that the scheduled rate of transmission of electric energy entering the United States over the facilities operated herein shall not exceed 250 MW.

Article 4. No change shall be made in the facilities covered by this Permit or in the authorized operation or connection of these facilities unless such change has been approved by DOE.

Article 5. The Joint Owners shall at all times maintain the facilities covered by this Permit in a satisfactory condition so that all requirements of the National Electric Safety Code in effect at the time of construction are fully met.

Article 6. The operation and maintenance of the facilities covered by this Permit shall be subject to the inspection and approval of a designated representative of DOE, who shall be an authorized representative of the United States for such purposes. The Joint Owners shall allow officers or employees of the United States, with written

authorization, free and unrestricted access into, through and across any lands occupied by these facilities in the performance of their duties.

Article 7. The Joint Owners shall investigate any complaints from nearby residents of radio or television interference identifiably caused by the operation of the facilities covered by this Permit. The Joint Owners shall take appropriate action as necessary to mitigate such situations. Complaints from individuals residing within one-half mile of the centerline of the transmission line must be resolved. The Joint Owners shall maintain written records of all complaints received and of the corrective actions taken.

Article 8. The United States shall not be responsible or liable for damages of any kind which may arise from or be incident to the exercise of the privileges granted herein. Joint Owners shall hold the United States harmless from any and all such claims.

Article 9. The Joint Owners shall arrange for the installation and maintenance of appropriate metering equipment to record permanently the hourly flow of all electric energy transmitted between the United States and Canada over the facilities authorized herein. The Joint Owners shall make and preserve full and complete records with respect to the electric energy transactions between the United States and Canada. The Joint Owners shall collect and submit the data to EIA as required by and in accordance with the procedures of Form EIA-111, "Quarterly Electricity Imports and Exports Report" or its successor form.

Article 10. Neither this Permit nor the facilities covered by this Permit, or any part thereof, shall be transferable or assignable, unless specifically authorized by DOE in accordance with Title 10, Code of Federal Regulations.

Article 11. Upon the termination, revocation or surrender of this Permit, the permitted facilities which are owned, operated, maintained, and connected by the Joint Owners and described in Article 2 of this Permit, shall be removed and the land restored to its original condition within such time as DOE may specify and at the expense of the Joint Owners. If the Joint Owners fail to remove such facilities and/or any portion thereof authorized by this Permit, DOE may direct that such actions be taken for the removal of the facilities or the restoration of the land associated with the facilities at the expense of the Joint Owners. The Joint Owners shall have no claim for damages by reason of such possession, removal or repair. However, if certain facilities authorized herein are useful for other utility operations within the bounds of the United States, DOE may not require that those facilities be removed and the land restored to its original condition upon termination of the international interconnection.

Article 12. Joint Owners have a continuing obligation to give DOE written notification as soon as practicable of any prospective or actual changes of a substantive nature in the circumstances upon which this Order was based, including but not limited to changes in authorized entity contact information.

Issued in Washington, D.C., on May 3, 2016.

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Office of Electricity Delivery and
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