



GDS Associates, Inc.
Engineers and Consultants

RENEWABLE ENERGY RESOURCES ELIGIBILITY
GDS TEAM RECOMMENDATION
For Consideration By The
STATE OF RHODE ISLAND PUBLIC UTILITIES COMMISSION
(Version 6 – August 20th, 2013)

Date: October 28, 2014

Docket #: 4495

Generation Unit and Contact Information:

Unit Name: Troy Hydro Project

Unit Owner: Troy Mills Hydroelectric Inc.

Unit Size (max. MW): 0.816 MW *Location (city, state):* Troy, VT

Commercial Operation Date: 11/14/2013

Contact Name, Numbers and Address: Jonathan Chase, President, Troy Mills Hydroelectric Inc., 361 Goodall Road, Derby Line, VT 05830 Phone: (802) 895-2980 Email: Fallingwaters@myfairpoint.net

Backup: Carolyn Alderman, Counsel/Energy Specialist, VEPPI, P.O. Box 1938, Manchester Center, VT 05255, Phone: (802) 362-0748 Fax: (802) 362-5496 Email: Calderman@veppi.org

Authorized Representative Name, Numbers and Address: Jonathan Chase, President, Troy Mills Hydroelectric Inc., 361 Goodall Road, Derby Line, VT 05830 Phone: (802) 895-2980 Email: Fallingwaters@myfairpoint.net

Application Received:

Date: March 11, 2014

Comments: Original application indicated that the facility was 100% new. However, our review revealed that Troy Hydro is located at the site of an existing impoundment. A phone call clarified that the facility is most likely a repowered facility. An information request sent on 5/28/14 asked for the necessary evidence to prove the facility was repowered (Section 3.29 of the Rules and Regs). The information was received on 10/8/14. It contained appendix C and was deemed to meet the three requirements of a repowering: A) The prime mover was completely replaced (proved via before and after photos) B) The new equipment is of a higher efficiency (proved via output) C) At least 80% of the tax basis was from capital expenditures made after 12/31/1997 (proved via before and after tax documentation). Considering the supplemental information we recommend approval of the facility as new repowered generation unit.

Type of Certification Requested:

☒ Standard Certification ☐ Prospective Certification (Declaratory Judgment)

Generation Type and Technology Information: *(check all that apply)*

- ☒ Repowered Project ☐ Incremental Generation ☐ Incremental Intermittent
☐ Customer-Sited or Off-Grid System (or associated aggregations)
☐ Generation Unit Located in Control Area Adjacent to NEPOOL:
☐ Solar ☐ Wind ☐ Ocean Thermal ☐ Geothermal ☒ Small Hydro
☐ Eligible Biomass ☐ Unlisted Biomass ☐ Biomass (fossil co-fired/multi-fuel)
☐ Fuel Cell (using an eligible renewable resource)

Recommendation:

- ☒ Approve (GIS Certification #: NON39414) ☐ Reject ☐ Public Hearing
Needed
☐ Existing Renewable Energy Resource ☒ New Renewable Energy Resource
☐ Capable of Producing as both Existing & New Renewable Energy Resource

Comments:

RENEWABLE ENERGY RESOURCES ELIGIBILITY
DETAILED GDS TEAM APPLICATION REVIEW RESULTS

(Template V5 – 11/15/11)

Date of Final Review: October 28, 2014

Note: Depending on the type of application (project vintage, type, location, fuel source, etc.) not all of these data items will be applicable.

A. Renewable Energy Resource – Vintage *(see appropriate Sections of RES Regulations, Application Sections 3.1-3.9 and Appendix C):*

A.1 Generation Unit meets the definition of an Existing Renewable Energy Resource noted in RES Regulations Section 3.10 (first entering commercial operation before 12/31/1997). ☐ Yes ☒ No

Comments: Repowered

A.2 Generation from the Unit meets one of the definitions of New Renewable Energy Resource in RES Regulations Section 3.23.

☒ Yes ☐ No ☐ N/A

Comments: See below

A.2.1 If Generation Unit is at a new site, adequate documentation is provided to ensure that it first entered commercial operation after December 31, 1997. ☐ Yes ☒ No ☐ N/A

Comments: It is an existing site

A.2.2 If Generation Unit is at the site of an Existing Renewable Energy Resource, adequate documentation is provided to ensure that it first entered commercial operation after December 31, 1997 and that the Existing Renewable Energy Resource has been retired and replaced with such new Generation Unit. ☐ Yes ☒ No ☐ N/A

Comments: The impoundment was not replaced; therefore it is a repowered generation unit.

A.2.3 If a Repowered Generation Unit (as defined in Section 3.29 of the RES Regulations – complete replacement of Prime Mover, material increase in efficiency or material decrease in air emissions, and demonstration that at least 80% of resulting tax basis of the entire Generation Unit's plant and equipment is derived from capital expenditures made after December 31, 1997), adequate documentation is provided to ensure that the entire output of said unit first entered commercial operation after December 31, 1997 at the site of existing Generation Unit. ☒ Yes ☐ No ☐ N/A

Comments: Evidence:

Replacement of prime mover: Before and after photos showed that the turbine, penstock and power house were all either replaced or refurbished beyond recognition. The existing site was in disrepair prior to repowering

Increase in efficiency: New turbine is much more efficient than old replaced turbine. Evidence provided showed that in its first 11 months of operation it has already exceeded the highest historical annual output. Research into the older turbine showed it to be less efficient as well.

80% Tax Basis: Applicant submitted property taxes for the site from both 2013 (pre-repowering) and 2014 (post repowering). Pre repowering assessed value was \$24,800. Post capital investment the tax basis of the site was \$1,024,800 (i.e. 98% of the tax basis is derived from the capital expenditures).

Finally, all the documents, photos, and generation data show that the unit entered commercial operations on 11/14/2014.

A.2.4 If a multi-fuel facility, adequate documentation is provided to ensure that the renewable energy fraction of output from a Generation Unit in which an Eligible Biomass Fuel is first co-fired with fossil fuels after December 31, 1997. ☐ Yes ☒ No ☐ N/A
Comments:

A.2.5 If Incremental Output from a non-Intermittent Existing Renewable Energy Resource, adequate documentation is provided to ensure that such output is attributable to capital investments for efficiency improvements or additions of capacity that were demonstrably completed after December 31, 1997 and that are sufficient to, were intended to, and can be demonstrated to increase annual electricity output in excess of ten percent (10%) over a Historical Generation Baseline as determined per Section 3.23.v of the RES Regulations. ☐ Yes ☒ No ☐ N/A
Comments:

A.2.6 If Incremental Output from an Intermittent Existing Renewable Energy Resource, adequate documentation is provided to ensure that such output is attributable to capital investments for efficiency improvements or additions of capacity that were demonstrably completed after December 31, 1997 and that are sufficient to, were intended to, and can be demonstrated to increase annual electricity output in excess of ten percent (10%) over a Historical Generation Baseline as determined per Section 3.23.vi of the RES Regulations. ☐ Yes ☒ No ☐ N/A
Comments:

B. Eligible Customer-Sited/Off-Grid Generation Facility: ☐ Yes ☒ No
(See appropriate Sections of RES Regulations, Application Section 5 and Appendix D)

B.1 Adequate documentation provided to ensure that NEPOOL GIS Certificates are created by way of an aggregation of Generation Units, physically located in the State of Rhode Island, using the same generation technology (see RES Regulations Section 6.8.i). ☐ Yes ☐ No

Comments: N/A

B.2 Proposed Aggregation Agreement (as specified in Section 6.8.iii of the RES Regulations) is reasonable and complete. ☐ Yes ☐ No

Comments: N/A

B.2.1 Aggregation Agreement includes name and contact information of the aggregator owner. ☐ Yes ☐ No

Comments: N/A

B.2.2 Aggregation Agreement includes name and contact information and adequate evidence of qualifications of the Verifier to ensure that the Verifier will accurately and efficiently carry out its duties. ☐ Yes ☐ No

Comments: N/A

B.2.2.1 Additional evidence of Verifier qualifications requested and provided. ☐ Yes ☐ No ☐ N/A

Comments: N/A

B.2.3 Aggregation Agreement includes a declaration of any and all business or financial relations between aggregator and Verifier sufficient to ensure the independence of the Verifier in accordance with Section 6.8.iii.c of the RES Regulations (10% or more ownership in voting stock, or family officer/etc). ☐ Yes ☐ No

Comments: N/A

B.2.3.1 Aggregation Agreement includes statement indicating under what circumstances the Verifier would not be considered sufficiently independent of the individual Generation Unit, and that Generation Units not meeting this independence test would not be allowed to participate in the aggregation. ☐ Yes ☐ No

Comments: N/A

B.2.4 Aggregation Agreement identifies the type of technology that will be included in the aggregation and provides a statement that the aggregation will include only individual Generation Units that meet all the requirements of the RES Regulations (physical location, vintage, etc.). ☐ Yes ☐ No

Comments: N/A

B.2.5 Aggregation Agreement provides an adequate description of proposed operating procedures for the aggregation, by which the Verifier shall ensure that individual Generation Units in the aggregation comply with all eligibility requirements and that the

NEPOOL GIS Certificates created accurately represent generation (see Section 6.8.iii.e of the RES Regulations). ☐ Yes ☐ No
Comments: N/A

B.2.5.1 At a minimum the proposed operating procedures include reasonable and sufficient details for:

- Determining that the Generation Unit exists and is in compliance with RES Regulations and Commission-approved Aggregation Agreement. ☐ Yes ☐ No
- Meter reading procedure that allows the Verifier to verify these readings (manual or remote, via the aggregators own system or an independent system) in a manner fully compliant with NEPOOL GIS Operating Rules regarding metering. ☐ Yes ☐ No
- Specifying how generation data will be entered into NEPOOL GIS to create Certificates. ☐ Yes ☐ No
- Documenting a procedure to verify independently that the GIS Certificates created for the aggregation are consistent with the meter readings. ☐ Yes ☐ No
- Correcting discrepancies in NEPOOL GIS Certificate generation identified by the Verifier. ☐ Yes ☐ No

Comments: N/A

B.2.6 Aggregation Agreement provides an adequate description of how the Verifier will be compensated for its services by the aggregator (in no instance is the Verifier is compensated in a manner linked to the number of NEPOOL GIS Certificates created by the aggregation). ☐ Yes ☐ No

Comments: N/A

C. Generation Unit Location (*see appropriate Sections of RES Regulations, Application Section 5 and Appendix E*):

C.1 Generation Unit is located in NEPOOL Control Area. ☒ Yes ☐ No
Comments: 164 Citizens Utilities Road, Troy, VT 05868

C.1.1 Generation Unit is located in Rhode Island. ☐ Yes ☒ No
Comments: -72.3996/44.9159

C.2 Generation Unit is located in a control area adjacent to NEPOOL and, in accordance with Section 5.1.ii of the RES Regulations, will apply the associated Generation Attributes to the RES only to the extent that the energy produced by the Generation Unit is actually delivered into NEPOOL for consumption by New England customers. ☐ Yes ☒ No
Comments:

C.2.1 Applicant acknowledges that satisfactory documentation (i.e., a report from neighboring Generation Attribute accounting system or an affidavit) must be provided to verify that Generation Attributes from a Generation Unit located in a control area adjacent to NEPOOL have not otherwise been, nor will be, sold, retired, claimed or represented as part of electrical energy output or sales, or used to satisfy obligations in jurisdictions other than Rhode Island (such assurances may consist of a report from a neighboring Generation Attribute accounting system or an affidavit from the Generation Unit) ☐ Yes ☐ No

Comments: N/A

C.2.2 Applicant acknowledges that energy delivered from such Generation Unit into NEPOOL will be verified by the following:

- A unit-specific bilateral contract for the sale and delivery of such energy into NEPOOL
- Confirmation from ISO that the energy was actually settled in the ISO Market Settlement System, and
- Confirmation through the North American Reliability Council tagging system that the import of the energy into NEPOOL actually occurred, or such other requirements as the Commission deems appropriate

☐ Yes ☐ No

Comments: N/A

D. Eligible Fuel Source – Solar, Wind, Ocean Thermal, Geothermal, or Fuel Cell (using an eligible renewable resource) (*see appropriate Sections of RES Regulations and Application Section 2.4*): ☐ Yes ☒ No ☐ N/A

Comments:

E. Eligible Fuel Source – Small Hydro Facilities (*see appropriate Sections of RES Regulations and Application Sections 2.5-2.6*): ☒ Yes ☐ No ☐ N/A

E.1 Aggregate capacity does not exceed 30 MW. ☒ Yes ☐ No

Comments: 0.816 MW

E.2 If “New Renewable Energy Resource”, applicant acknowledges that facility does not involve any new impoundment or diversion of water with an average salinity of 20 parts per thousand or less. ☒ Yes ☐ No

Comments: Existing impoundment

F. Eligible Fuel Source – Biomass Facilities (*see appropriate Sections of RES Regulations, Application Sections 2.7 and Appendix F*): ☐ Yes ☒ No ☐ N/A

F.1 Generation Unit uses a biomass fuel source listed in RES Regulations Section 3.7. ☐ Yes ☐ No

Comments: N/A

F.2 If source is other than RES Regulations Section 3.7-listed, said source has been designated as “clean wood”. ☐ Yes ☐ No

Comments: N/A

F.3 Fuel Source Plan can reasonably be expected to ensure that only Eligible Biomass Fuels will be used, and in the case of co-firing ensure that only that proportion of generation attributable to an Eligible Biomass Fuel be eligible. ☐ Yes ☐ No

Comments: N/A

F.3.1 Fuel Source Plan specifies the type of Eligible Biomass Fuel to be used. ☐ Yes ☐ No

Comments: N/A

F.3.2 If proposed fuel is “clean wood”, Fuel Source Plan provides adequate substantiation as to why the fuel source should be considered a clean wood. ☐ Yes ☐ No ☐ N/A

Comments: N/A

F.3.3 In the case of co-firing with a fossil fuel, Fuel Source Plan includes an adequate description of how such co-firing will occur and how the relative amounts of Eligible Biomass Fuel and fossil fuel will be measured, and how the eligible portion of generation output will be calculated (with such calculations based on the energy content of the proposed fuels used). ☐ Yes ☐ No ☐ N/A

Comments: N/A

F.3.4 Fuel Source Plan includes an adequate description of what measures will be taken to ensure that only the Eligible Biomass Fuel is used (e.g., standard operating protocols or procedures that will be implemented at the Generating Unit, contracts with fuel suppliers, testing or sampling regimes). ☐ Yes ☐ No

Comments: N/A

F.3.5 Fuel Source Plan includes adequate assurance that the fuels stored at or brought to the Generation Unit will only be Eligible Biomass Fuels or fossil fuels used for co-firing. ☐ Yes ☐ No

Comments: N/A

F.3.6 If proposed fuel includes recycled wood waste, Fuel Source Plan provides adequate documentation to ensure that such fuel meets the definition of Eligible Biomass Fuel and also meets material separation, storage, or handling standards acceptable to

the Commission and furthermore consistent with the RES Regulations. ☐ Yes ☐ No ☐ N/A
Comments: N/A

F.3.7 Applicant certifies that it will file all reports and other information necessary to enable the Commission to verify the ongoing eligibility of the renewable energy generators pursuant to Section 6.3 of the RES Regulations. ☐ Yes ☐ No ☐ N/A
Comments: N/A

F.3.8 A copy of the Generation Unit's Valid Air Permit or equivalent authorization has been attached and the effective date and issuing state or jurisdiction has been identified. ☐ Yes ☐ No ☐ N/A
Comments: N/A

G. Other Comments/Observations: recommend full certification as a new repowered generation unit.