

S.D.I., Inc.

207.929.4005

SYSTEMS INTEGRATORS 96 HERMIT THRUSH DRIVE, BUXTON, ME.04093

July 13, 2020

File:41448/1.0

Mr. Steve French
SFR Hydro
Milton, NH.

Re: Net Metering MW Cap Controls

Steve:

Here is a synopsis of the control system to allow for limiting total station output to 1000KW or Less.

Units No.1, No.2, No.3 would be placed at base load depending on the water availability. Unit #4 would be operated normally in Pond Control. The control system will total the station output continuously and if the station output exceeds 990KW, the unit #3 will be adjusted automatically to reduce the total output from the plant. The control system will then reduce the output power of unit No.3 with a number of successive lower commands until the total station output falls below the 990KW setpoint. Also, when the total station output drops below the preset lower dead band of 960 KW, the control system will begin to increase the unit No.3 output to bring the total station power back into the dead band range. You will also have the ability to operate the station in KW control by manually selecting to disable pond control for unit No.4.

As you can see, by automatically taking action when unit No.4 is in pond control and before the station output exceeds the 1000KW threshold you will be protected from having an excursion beyond the 1000KW threshold. I hope this explanation is clear for you to present to the New Hampshire PUC. Let me know if you need any more explanation.

Regards:

Sincerely,
S.D.I, Inc.

Richard G. Ouellette

Richard G. Ouellette, President

SDI

PROFIT FROM OUR EXPERIENCE

SINCE 1985

State of New Hampshire
 Public Utilities Commission
 21 South Fruit Street, Suite 10
 Concord, NH 03301
 603-271-2431
 www.puc.nh.gov

Form PUC 909.09 Application to Register or Re-register as a Host (RSA 362-A:9, XIV)

Distribution Utility: Eversource Liberty Utilities Unitil

Please note that **the distribution utility for host and all group members must be the same.**

New Hampshire Electric Cooperative (NHEC) customers are not required to register for Group Net Metering with the Commission but instead must register directly with NHEC.

1. Facility Installer Information

Company Name: Standard Power of America
 Email Address: b.hayden@standardpower.com Phone: 603-325-1749

2. Host Information:

Name Salmon Falls River Hydro Co.

PO Box 689, Kingston NH 03848
 Billing Address
17 Hydro Plant Rd, Milton NH 03851
 Service Address (if different than billing address)

 Utility Account Number

 Meter Number 603-643-3304 Projected Annual Usage 5,000 kWh

 Telephone Number 603-643-3304 Email Address niki@abenakitimber.com Website

3. Person Responsible for Responding to Commission Inquiries:

Robert Hayden 603-325-1749 b.hayden@standardpower.com
 Name Telephone Number Email Address

State of New Hampshire
 Public Utilities Commission
 21 South Fruit Street, Suite 10
 Concord, NH 03301
 603-271-2431
 www.puc.nh.gov

5. Production and Usage Comparisons

Host facility's projected output (kWh): 5,000,000 kWh
 Host's Total Historic Annual Usage: 5,000 kWh Projected Annual Usage: 5,000 kWh
 Total Historic Annual Usage of All Group Members (excluding host): 7,200,000 kWh
 Total Projected Annual Usage of All Group Members (excluding host): 7,200,000 kWh
 Renewable Energy Source (e.g., solar, hydro, wind, etc.): Hydro
 Generation Capacity (Maximum kW AC for solar) of host's facility: 1.550 MW limited to 0.950 MW

6. Certifications

By signing below, I certify to the following (please check each box):

- each group member and the host are a customer of the same distribution utility;
- each group member and the host have signed an agreement that complies with Puc 902.01 and Puc 909.05 (unless the host and group member are the same person or entity and an agreement therefore is not required);
- the total historic annual usage of the members together with the host **exceeds the projected annual output of the host's facility;**
- none of the group members is a customer-generator except if the host and the group member are the same person or entity (provided the host account is the only customer-generator (i.e., net metered account) in the group);
- I understand that group hosts, with the exception noted below in bold type, are required to report system generation and group usage to the Commission and the distribution utility by April 1 of each year and may do so using form 909.10 available on the Commission website. **Hosts with residential systems with maximum generation capacity less than 15 kilowatts AC are not required to submit an annual group host report.**
- I have provided a copy of this application, with any and all attachments, to the distribution utility;
- I have the authority to sign this application on behalf of the host; and
- the information on this form is true to the best of my knowledge and belief.

2/6/2020 Robert A Hayden
 Date Printed Name

Robert A Hayden
 Signature

State of New Hampshire
Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301
603-271-2431
www.puc.nh.gov

Group Member Information (continued):

Name

Billing Address

Service Address (if different than billing address)

Utility Account Number

Meter Number Projected Annual Usage

Name

Billing Address

Service Address (if different than billing address)

Utility Account Number

Meter Number Projected Annual Usage

Name

Billing Address

Service Address (if different than billing address)

Utility Account Number

Meter Number Projected Annual Usage

From: Sisto, Michael [<mailto:Michael.Sisto@puc.nh.gov>]

Sent: Thursday, June 04, 2020 3:30 PM

To: 'Robert Hayden' <b.hayden@standardpower.com>; Wiesner, David K <David.Wiesner@puc.nh.gov>; Cramton, Karen <Karen.Cramton@puc.nh.gov>; Richard C. Labrecque <richard.labrecque@eversource.com>; Steve French <sbf-atc@abenakitimber.com>

Subject: RE: Standard Power - Salmon Falls River Hydro Co.

Bob,

This will serve as official notification that the application for Salmon Falls River Hydro has been denied. You may request Commission review if you disagree with this denial.

Thanks,
Mike

From: mgreco@salmonfallspower.com [<mailto:mgreco@salmonfallspower.com>]

Sent: Tuesday, August 18, 2020 9:14 AM

To: sbf-atc@abenakitimber.com

Cc: Geiger, Susan S. <SGeiger@orr-reno.com>; french.williamh@gmail.com

Subject: SFR Hydro SCADA System & Generator Nameplate Values versus Generator Power Output

Subject: SFR Hydro SCADA System & Generator Nameplate Values versus Generator Power Output

Steven B. French
Abenaki Timber Corporation

Myself and the staff at Evergreen Electric, along with an experienced System Integrator, recently installed sophisticated electronic equipment to better control and manage power generation at SFR Hydro on the Salmon Falls River in Milton, NH.

SFR Hydro's new Supervisory Control And Data Acquisition (SCADA) system efficiently and conveniently controls and monitors all aspects of the electric generation system.

With these new tools, SFR can accurately set the power level of generator output on any of the four units at the station.

In addition to precisely setting and controlling generator power levels locally, and remotely from anywhere, these new tools can maintain accurate and timely records of power generation and other important information.

Specifically regarding the control, limitation and recording of power generation at SFR Hydro. This can readily be achieved with technology presently installed at the station.

These newly installed technologies more accurately define the operational parameters, over the guesswork of misapplied generator / motor nameplate data.

In many regulatory cases generator nameplate specification details are used to establish the power output rating of a particular power station or generator setup.

Using this nameplate method to determining generator power output is likely to produce misunderstanding and inaccuracies in any determination because of the following:

The nameplate specifications are the rules the generator manufacturer engineered into a machine for safe, long lasting operation.

In a hydroelectric generator system, the hydraulic design and operational conditions of the prime mover turbine unit will determine the efficiency and power output of the system.

Electrical power factor and mechanical installation design are major factors as well.

As a practical matter, the nameplate power output would be considered a value not to exceed, at a rated temperature, to avoid damage to the generator components.

Small hydroelectric operations placed into operation some time ago, seem to lack attention to engineering details and manufacturer's nameplate information data is frequently not accurate in the installed environment.

Martin "Marty" Greco

Licensed Master Electrician NH - ME - VT with 30+ years of industrial electronics and electrical operations in power generation.

Degree in Industrial Electronics Engineering

Eversource Energy Approved Protective Relay Engineer

Central Maine Power Company Approved Protective Relay Engineer

Owner / Operator at:

Pine Valley Mill Hydro - Milford NH

Boston Felt Hydro - East Rochester NH

Noone Falls Hydro - Peterborough NH

Martin "Marty" Greco

SALMON FALLS POWER

P.O. BOX 9

SOUTH CASCO, MAINE 04077-0009

(207) 878-2000



From: Labrecque, Richard C [<mailto:richard.labrecque@eversource.com>]
Sent: Thursday, September 3, 2020 1:40 PM
To: Steve French <sbf-atc@abenakitimber.com>
Cc: Geiger, Susan S. <SGeiger@orr-reno.com>
Subject: RE: Milton net metering application

Hi Steve –

Eversource would be willing and able to review your production data quarterly and report, to yourself and/or the NHPUC, on compliance with the 1000 kW limit.

On a daily basis, we obtain hourly data via remote interrogation of this hydro meter. This data is used for generation reporting to the ISO-NE market settlement system and is also used for payment processing for hydro power sales to Eversource.

Thus, this quarterly review would be a simple matter for us.

Let me know if you have other questions, Thanks

Richard C. Labrecque
Manager - Distributed Energy Resource Planning | Eversource Energy
780 N. Commercial Street | Manchester, NH 03101
☎ : 603-634-2931 | 📠 : 603-634-2924 | ✉ : richard.labrecque@eversource.com