DE12-314

VERMONT PUBLIC POWER SUPPLY AUTHORITY

5195 Waterbury-Stowe Road • Waterbury Ctr., VT 05677
(802) 244-7678 Fax (802) 244-6889 www.vppsa.com

SUMBITTED ELECTRONICALLY 10/23/2012

Debra A. Howland
Executive Director
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301-2429

October 23, 2012

Re: Highgate Falls Unit #5 Application for Consideration as a Class I Renewable Resource under New Hampshire's Renewable Portfolio Standard

Ms. Howland,

Vermont Public Power Supply Authority ("VPPSA") is pleased to submit this application on behalf of Swanton Village Electric Department for class I renewable resource eligibility for Highgate Falls Unit #5 under New Hampshire's renewable portfolio standard.

Highgate Falls Unit #5 is a new generator installed in the spillway of the existing generation facility known as Highgate Falls. The unit is applying for class I eligibility in New Hampshire under the new incremental generation standard.

VPPSA is acting on behalf of Swanton Village and will be the primary contact for this application. Contact information for VPPSA follows:

Greg Morse, Sr. Power Analyst
Vermont Public Power Supply Authority
5195 Waterbury-Stowe Rd.
Waterbury Center, VT 05677
Phone: 802.882.8508
Fax: 802.244.6889
Email: gmorse@vppsa.com

Should you wish to contact Swanton Village Electric Department the following information may be used:

Reginald Beliveau, General Manager
Swanton Village Electric Department
P.O. Box 279
Swanton, VT 05488
Phone: 802.868.3397
Email: rbeliveau@swanton.net

Please feel free to contact me at any point should you have additional questions.

Regards,

Gregory E. Morse, ERP
Sr. Power Analyst
Vermont Public Power Supply Authority

– VPPSA –

STATE OF NEW HAMPSHIRE

PUBLIC UTILITIES COMMISSION

SAMPLE APPLICATION FORM

FOR RENEWABLE ENERGY SOURCE ELIGIBILITY

Pursuant to New Hampshire Admin. Code Puc 2500 Rules

NOTE: When completing this application electronically, using the "tab" key after completing each answer will move the cursor to the next blank to be filled in. If a question is not applicable to your facility, then check the box next to N/A.

Pursuant to Puc 202, the signed application shall be filed with the Executive Director and Secretary of the New Hampshire Public Utilities Commission (Commission). To ensure that your submitted application is complete, please read RSA 362-F and N.H. Code Admin. Rules Puc 2500 before filling out this application. It is the burden of the applicant to provide timely, accurate and complete information as part of the application process. Any failure by the applicant to provide information in a timely manner may result in the Commission dismissing this application without prejudice.

---

1. **ELIGIBILITY CLASS APPLIED FOR:** [x] I [ ] II [ ] III [ ] IV

2. Applicant's legal name: Village of Swanton Electric Department

Address: (1) Attn: Reginald Beliveau

(2) PO Box 279

(3)

Swanton (City) VT (State) 5488 (Zip code)

4. Telephone number: 802-868-3397

5. Facsimile number: 802-868-3930

6. Email address: rbeliveau@swanton.net

7. Facility name: Highgate Falls Unit #5

8. Facility location: (1) Mailing Address Same as Swanton Village Electric Dept.

(2) Missisquoi River, Franklin County

Highgate (City) VT (State) 5459 (Zip code)

9. Latitude: 44.9343 N Longitude: 73.0476 W

10. The name and telephone number of the facility's operator, if different from the owner: Same [x]

(Name) (Telephone number)

11. The ISO-New England asset identification number, if applicable: _____ or N/A: [x]

12. The GIS facility code, if applicable: NON35237 or N/A: [ ]

13. A description of the facility, including fuel type, gross nameplate generation capacity, the initial commercial operation date, and the date it began operation, if different.

14. If Class I certification is sought for a generation facility that uses biomass, the applicant shall submit:
    (a) quarterly average NOx emission rates over the past rolling year,
    (b) the most recent average particulate matter emission rates as required by the New Hampshire Department of Environmental Services (NHDES),
    (c) a description of the pollution control equipment or proposed practices for compliance with such requirements,
    (d) proof that a copy of the completed application has been filed with the NHDES, and
    (e) conduct a stack test to verify compliance with the emission standard for particulate matter no later than 12 months prior to the end of the subject calendar quarter except as provided for in RSA 362-F:12, II.
    (f) [x] N/A: Class I certification is NOT being sought for a generation facility that uses biomass.

15. If Class I certification is sought for the incremental new production of electricity by a generation facility that uses biomass, methane or hydroelectric technologies to produce energy, the applicant shall:
    (a) demonstrate that it has made capital investments after January 1, 2006 with the successful purpose of improving the efficiency or increasing the output of renewable energy from the facility, and
    (b) supply the historical generation baseline as defined in RSA 362-F:2, X.
    (c) [ ] N/A: Class I certification is NOT being sought for the incremental new production of electricty by a generation facility that uses biomass, methane or hydroelectric technologies.

16. If Class I certification is sought for repowered Class III or Class IV sources, the applicant shall:
    (a) demonstrate that it has made new capital investments for the purpose of restoring unusable generation capacity or adding to the existing capacity, in light of the NHDES environmental permitting requirements or otherwise, and

(b) provide documentation that eighty percent of its tax basis in the resulting plant and equipment of the eligible generation capacity, including the NHDES permitting requirements for new plants, but exclusive of any tax basis in real property and intangible assets, is derived from the new capital investments.

(c) [x] N/A: Class I certification is NOT being sought for repowered Class III or Class IV sources.

17. If Class I certification is sought for formerly nonrenewable energy electric generation facilities, the applicant shall:

(a) demonstrate that it has made new capital investments for the purpose of repowering with eligible biomass technologies or methane gas and complies with the certification requirements of Puc 2505.04, if using biomass fuels, and

(b) provide documentation that eighty percent of its tax basis in the resulting generation unit, including NHDES permitting requirements for new plants, but exclusive of any tax basis in real property and intangible assets, is derived from the new capital investments.

(c) [x] N/A: Class I certification is NOT being sought for formerly nonrenewable energy electric generation facilities.

18. If Class IV certification is sought for an existing small hydroelectric facility, the applicant shall submit proof that:

(a) it has installed upstream and downstream diadromous fish passages that have been required and approved under the terms of its license or exemption from the Federal Energy Regulatory Commission, and

(b) when required, has documented applicable state water quality certification pursuant to section 401 of the Clean Water Act for hydroelectric projects.

(c) [x] N/A: Class IV certification is NOT being sought for existing small hydroelectric facilities.

19. If the source is located in a control area adjacent to the New England control area, the applicant shall submit proof that the energy is delivered within the New England control area and such delivery is verified using the documentation required in Puc 2504.01(a)(2) a. to e.

20. All other necessary regulatory approvals, including any reviews, approvals or permits required by the NHDES or the environmental protection agency in the facility's state.

21. Proof that the applicant either has an approved interconnection study on file with the commission, is a party to a currently effective interconnection agreement, or is otherwise not required to undertake an interconnection study.

22. A description of how the generation facility is connected to the regional power pool of the local electric distribution utility.

23. A statement as to whether the facility has been certified under another non-federal jurisdiction's renewable portfolio standard and proof thereof.

24. A statement as to whether the facility's output has been verified by ISO-New England.

25. A description of how the facility's output is reported to the GIS if not verified by ISO-New England.

26. An affidavit by the owner attesting to the accuracy of the contents of the application.

27. Such other information as the applicant wishes to provide to assist in classification of the generating facility.

28. This application and all future correspondence should be sent to:

Ms. Debra A. Howland
Executive Director and Secretary
State of New Hampshire
Public Utilities Commission
21 S. Fruit St, Suite 10
Concord, NH 03301-2429

29. Preparer's information:

Name: Gregory Morse

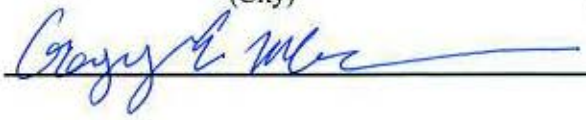
Title: Senior Power Analyst

Address: (1) Vermont Public Power Supply Authority

(2) 5195 Waterbury-Stowe Rd

(3)

Waterbury Venter	VT	5655
(City)	(State)	(Zip code)

30. Preparer's signature: 

VERMONT PUBLIC POWER SUPPLY AUTHORITY

5195 Waterbury-Stowe Road • Waterbury Ctr., VT 05677
(802) 244-7678 Fax (802) 244-6889 www.vppsa.com

This document provides supplemental information to the application for certification as a class I renewable resource for incremental generation at the Highgate Falls generating station under the renewable portfolio standard in the state of New Hampshire.

The following information is provided based on specific requests in the application form. Items completed on the primary application or not applicable to this project have been omitted. Questions and numbers have been repeated in italics for clarity.

(13) A description of the facility, including fuel type, gross nameplate generation capacity, the initial commercial operation date, and the date it began operation, if different

The generation facility referenced in this application is a 572kW hydroelectric generator located in the spillway of the Highgate Falls generating station (i.e. Highgate Falls Unit #5). The spillway generator began operation on March 13, 2012. Initial operation of the primary Highgate Falls generating station was in January, 1928. The primary generating station has nameplate generation capacity of 11.392MW for a total plant nameplate of 11.964MW. At this time certification is sought only for new incremental generation represented by the 572kW spillway generator.

(15) If Class I certification is sought for the incremental new production of electricity by a generation facility that uses biomass, methane or hydroelectric technologies to produce energy, the applicant shall:
(a) demonstrate that is has made capital investments after January 1, 2006 with successful purpose of improving the efficiency or increasing the output of renewable energy from the facility, and
(b)supply the historical generation baseline as defined in RSA 362-F:2, X

(a) Please see attachment B which is an invoice for the generator installed as Highgate Falls unit #5
(b) Please see attachment C which is historical generation for the main Highgate Falls generating station from 1986 per RSA 362-F:2X. It should be noted that Highgate Falls Unit #5 is metered separately from the main generation facility. Readings from the independent meter are the basis for submission of generation information to GIS and are included for reference as attachment D.

(20) All other necessary regulatory approvals, including any reviews, approvals or permits required by the NHDES or the environmental protection agency in the facility's state

Included as attachment E is the project's Federal Energy Regulatory Commission (FERC) license. The project is in compliance with all terms of its license.

(21) Proof that the applicant either has an approved interconnection study on file with the commission, is a party to a currently effective interconnection agreement, or is otherwise not required to undertake an interconnection study.

Swanton Village Electric Department is the owner of Highgate Falls generating station. The Generating station is within the electric service territory for the utility and does not need an interconnection agreement. Attachment F is a diagram of Swanton Village's service grid. Note the spillway generator appears at the extreme right, labeled Project 5.

(22) A description of how the generation facility is connected to the regional power pool of the local electric distribution utility.

Please see attachment F for a diagram of the local interconnection facilities.

(23) A statement as to whether the facility has been certified under another non-federal jurisdiction's renewable portfolio standard and proof thereof.

Highgate Falls Unit #5 is certified under the renewable portfolio standard in the State of Maine as a 'New' or Class I resource. Please see attachment G which is a copy of the order from the Maine Public Utilities Commission certifying the unit.

(24) A statement as to whether the facility's output has been verified by ISO-New England.

Unit 5 is behind-the-meter and treated as a load reducer. As a result the output it not reported to ISO-New England.

(25) A description of how the facility's output is reported to the GIS if not verified by ISO-New England.

Swanton Village Electric Department currently relies on the Vermont Public Power Supply Authority (VPPSA) as an independent verifier to submit generation information to the GIS system pursuant to the unit's Maine 'New' (i.e. Class I) qualification.

As noted Highgate Falls Unit #5 is metered separately from the main generating facility. Data from the independent meter is the basis for submission to GIS which ensures RECs are created only from generation on the qualified unit.

VPPSA recently submitted an application for certification as an independent monitor in New Hampshire under PUC 2505.09(c)(6) which allows entities "certified as an independent monitor under a renewable portfolio standard program in another state" to receive reciprocal certification in New Hampshire. VPPSA has been confirmed as an independent monitor in Maine and Massachusetts.

(26) An affidavit by the owner attesting to the accuracy of the contents of the application.

Please see attachment H which is an affidavit from Reginald Beliveau, General Manager of the Swanton Village Electric Department. The notarized original is included with the hard copy of this application filed with the New Hampshire Public Utilities Commission.

INVOICE

HYDROPOWER TURBINE SYSTEMS, INC.
(HTS-INC)
PO Box 736
Hayes, VA 23072
TEL: 804-360-7992
FAX: 866-552-9946

BILL TO: VILLAGE OF SWANTON
Reggie Bellevue, Mgr
120 First Street
Swanton, VT 05488

Salesperson:	Alfred Patzig	*Date of order:*	11/10/2010	
Payment terms:	due upon receipt	*Date order shipped:*	8/10/2011	
Method of shipment:	Sea/Land	*FOB point:*	Swanton, VT	
Invoice number:	**1684-0708**	***Invoice date:***	**7/29/2011**	
Order number:		*Contract No:*	1684-411	

ITEM NO.	QTY.	DESCRIPTION	USD	USD
		OSSBERGER TURBINE/GENERATOR SET FOR HIGH GATE FALLS HYDRO		
1 - 11	1/3	OSSBERGER Turbine/HITZINGER Generator set	590,640.00	196,880.00
10a	1	Power factor regulator BASLER SCP 250 G	1,820.00	1,820.00
19	1	Drain pipe connection flange	750.00	750.00
		Final payment for Equipment procurement in accordance with HTS-INC Proposal P-1684-3 (3/10/10) and Order Acknowledgements Nos. 2 and 4 Payment due upon notification of equipment delivery - 7/29/11		

Sub total:	199,450.00
Tax:	
Shipping & handling:	0.00
Previous amount owing:	0.00
Credit:	0.00
You pay this amount in US$:	**199,450.00**

NOTES:
Excluding Sales and Use Taxes

Tax rate: excluded

ENCLOSURE:

INTERNAL USE ONLY			
Issued by:	AFP	*Date received:*	
Department:	ACCOUNTS RECEIVABLE	*Amount:*	
Proforma Invoice:	NO	*If not, resolved:*	
Document:	16840708.xls		

Year	Annual Generation in MWh
1986	10,039
1987	18,269
1988	19,619
1989	18,028
1990	26,570
1991	23,728
1992	15,996
1993	31,753
1994	34,710
1995	39,361
1996	47,433
1997	47,890
1998	49,530
1999	41,160
2000	41,813
2001	32,319
2002	50,578
2003	42,932
2004	49,582
2005	45,283
2006	58,558
2007	46,597
2008	52,392
2009	48,575
2010	51,957
2011	50,999
Annual Average	**38,295**

Vermont Public Power Supply Authority | Village of Swanton | Mar 01 - Mar 31, 2012

PEAK HOURLY LOAD: 523 KW at 1:00 PM on Saturday March 24 | MAXIMUM DAILY LOAD: Saturday March 24 12,522 KWH

TOTAL MONTHLY LOAD: **172,837** KWH

NET HYDRO GEN.: 172,837 KWH | NET DIESEL GEN.: 0 KWH | NET PURCHASES: 0 KWH

Monthly (Also Avg. Daily) Load Factor: 44.4% | Avg. Weekday Load Factor: 44.8% | Avg. Saturday Load Factor: 42.1% | Avg. Sunday Load Factor: 46.5%

Total Hourly Load Data - Kilowatts — **Swanton Hydro Gen 5**

DATE	DAY	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	NOON	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	MDNT	Total
AV WEEK DAY		202	202	207	228	239	241	241	240	230	243	244	245	246	246	242	231	241	242	241	239	229	226	226	225	
AVERAGE SAT		219	218	218	218	218	220	220	219	219	220	220	220	221	221	221	221	221	221	221	221	221	222	222	221	
AVERAGE SUN		255	255	254	254	255	255	255	255	255	255	254	254	255	255	254	254	254	254	254	253	250	192	147	146	
AV WKND DAY		235	234	234	234	234	235	235	235	235	235	235	235	236	236	236	236	236	236	236	235	234	208	188	188	
1	Thu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
2	Fri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
3	Sat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
4	Sun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
5	Mon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
6	Tue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
7	Wed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
8	Thu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
9	Fri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
10	Sat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
11	Sun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
12	Mon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	11	12	13	13	11	2	0	**72**
13	Tue	0	0	0	0	0	0	0	1	38	457	512	512	512	512	508	511	512	511	511	507	503	498	494	492	**7,591**
14	Wed	489	482	477	472	470	493	490	488	486	487	482	486	499	498	500	499	499	504	499	500	501	500	500	499	**11,800**
15	Thu	500	498	497	496	494	497	496	495	495	496	499	499	499	501	501	502	502	504	505	506	510	509	508	506	**12,015**
16	Fri	506	506	506	506	506	507	507	507	507	508	507	507	508	508	507	506	499	498	496	494	489	485	482	482	**12,034**
17	Sat	486	482	481	479	479	491	490	488	486	492	492	490	494	494	494	494	495	496	497	497	497	499	498	497	**11,788**
18	Sun	496	496	495	495	496	498	499	498	499	500	500	500	502	502	502	502	502	503	504	503	503	502	500	499	**11,996**
19	Mon	498	497	496	496	496	497	498	497	498	499	499	500	500	500	500	500	500	500	500	501	500	499	500	498	**11,969**
20	Tue	498	497	497	496	497	498	498	499	499	499	500	500	502	502	502	503	503	503	504	504	504	504	504	504	**12,017**
21	Wed	503	503	504	504	504	505	506	506	506	507	507	507	508	508	508	509	509	510	510	510	511	511	511	512	**12,179**
22	Thu	512	512	512	512	512	512	513	512	514	514	514	514	515	515	516	519	518	517	517	517	517	517	517	517	**12,355**
23	Fri	517	518	517	518	518	518	518	518	518	518	492	518	519	518	518	518	519	519	520	520	519	520	520	520	**12,418**
24	Sat	520	521	521	521	521	521	521	521	521	521	522	522	523	523	523	523	523	522	522	522	522	522	522	522	**12,522**
25	Sun	522	522	522	522	522	521	521	521	520	518	517	517	516	516	515	514	513	512	511	509	495	265	87	86	**11,284**
26	Mon	86	86	86	86	85	85	85	85	85	84	84	84	85	87	88	163	376	393	392	345	119	86	86	86	**3,327**
27	Tue	87	88	199	484	519	518	517	517	515	514	513	512	511	504	414	97	86	86	86	85	84	83	83	84	**7,186**
28	Wed	85	87	89	169	316	340	339	338	219	88	87	86	86	86	87	88	87	87	86	86	86	85	85	86	**3,278**
29	Thu	86	88	90	189	253	253	253	219	89	87	86	86	87	87	89	88	86	85	83	82	82	81	81	83	**2,793**
30	Fri	85	87	89	88	88	88	88	87	87	87	87	87	87	87	87	88	88	88	88	88	89	88	88	89	**2,103**
31	Sat	89	88	88	88	88	88	88	88	88	88	88	88	87	87	87	87	88	89	88	88	88	88	88	88	**2,110**

Vermont Public Power Supply Authority | Village of Swanton | Apr 01 - Apr 30, 2012

PEAK HOURLY LOAD: 523 KW at 9:00 AM on Friday April 13 | MAXIMUM DAILY LOAD: Sunday April 29 12,483 KWH

TOTAL MONTHLY LOAD: **161,678** KWH

NET HYDRO GEN.: 161,678 KWH | NET DIESEL GEN.: 0 KWH | NET PURCHASES: 0 KWH

Monthly (Also Avg. Daily) Load Factor: 42.9% | Avg. Weekday Load Factor: 46.2% | Avg. Saturday Load Factor: 37.8% | Avg. Sunday Load Factor: 33.5%

Total Hourly Load Data - Kilowatts — **Swanton Hydro Gen 5**

DATE	DAY	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	NOON	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	MDNT	Total
AV WEEK DAY		231	232	245	251	249	238	231	248	271	272	272	272	261	225	227	231	231	231	231	231	231	231	231	231	
AVERAGE SAT		196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	
AVERAGE SUN		175	175	175	174	175	175	175	175	175	175	175	175	175	174	175	174	175	175	175	175	175	175	175	174	
AV WKND DAY		184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	
1	Sun	87	88	88	88	88	88	88	88	88	88	88	88	87	87	87	87	88	88	88	89	88	88	88	89	2,109
2	Mon	88	87	87	87	88	88	88	88	88	88	88	88	88	88	88	89	89	89	88	89	88	88	88	88	2,113
3	Tue	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	2,112
4	Wed	88	88	88	88	88	89	88	88	88	88	88	88	88	86	71	88	88	88	88	88	88	88	88	89	2,095
5	Thu	88	89	89	89	89	89	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	2,117
6	Fri	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	89	88	88	88	88	88	88	88	2,113
7	Sat	88	88	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	88	89	88	2,132
8	Sun	89	88	88	88	88	88	88	88	88	88	88	88	88	88	89	88	89	88	89	88	88	89	88	88	2,117
9	Mon	88	88	88	88	88	89	89	89	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	2,115
10	Tue	89	107	376	517	516	516	516	516	516	516	516	516	516	516	516	516	516	516	516	515	515	514	514	514	11,401
11	Wed	513	513	512	512	512	512	513	513	514	514	514	515	514	515	515	514	515	515	515	517	518	517	517	517	12,346
12	Thu	517	518	517	518	517	518	518	518	518	519	520	519	520	520	520	519	520	520	520	520	521	521	521	521	12,460
13	Fri	521	521	521	521	521	522	521	522	523	522	520	515	311	91	88	88	88	88	88	88	88	88	88	88	7,532
14	Sat	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	2,112
15	Sun	89	89	89	88	89	89	89	89	89	89	89	89	89	89	89	88	88	89	88	88	88	88	89	88	2,128
16	Mon	89	89	89	89	89	89	88	88	88	88	88	88	88	88	88	88	88	89	89	88	89	88	88	88	2,121
17	Tue	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	2,112
18	Wed	88	88	88	88	88	89	89	88	89	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	2,115
19	Thu	88	88	88	88	88	89	89	89	89	88	89	88	82	10	89	89	88	89	89	88	89	89	89	89	2,041
20	Fri	89	89	89	89	89	89	89	89	88	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	2,135
21	Sat	90	90	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	2,138
22	Sun	89	89	89	89	89	89	89	89	89	89	89	89	88	88	87	88	87	87	88	87	88	87	88	88	2,119
23	Mon	87	88	88	87	88	89	89	206	488	520	520	518	516	514	514	514	515	514	513	511	511	511	510	510	9,021
24	Tue	511	510	510	510	510	510	510	511	511	511	512	513	512	513	514	513	513	514	514	514	514	515	515	515	12,295
25	Wed	516	516	517	517	517	517	518	519	519	520	520	521	521	519	521	521	520	520	521	521	521	521	521	521	12,465
26	Thu	521	521	521	521	521	522	521	521	520	519	519	517	507	319	97	88	88	88	88	88	87	88	88	88	7,958
27	Fri	88	88	88	88	88	88	93	313	520	523	522	521	521	234	446	517	517	518	517	517	517	518	517	517	8,876
28	Sat	518	517	518	518	517	518	518	518	518	518	518	518	519	518	518	519	518	518	519	519	519	519	519	519	12,438
29	Sun	519	519	520	519	519	520	519	520	520	520	520	520	521	520	521	521	521	521	521	521	521	521	520	519	12,483
30	Mon	519	519	518	517	471	231	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	4,359

Vermont Public Power Supply Authority | Village of Swanton | May 01 - May 31, 2012

PEAK HOURLY LOAD: 530 KW at 10:00 AM on Monday May 14 | MAXIMUM DAILY LOAD: Saturday May 12 12,455 KWH

TOTAL MONTHLY LOAD: **149,380** KWH

NET HYDRO GEN.: 149,380 KWH | NET DIESEL GEN.: 0 KWH | NET PURCHASES: 0 KWH

Monthly (Also Avg. Daily) Load Factor: 37.9% | Avg. Weekday Load Factor: 39.5% | Avg. Saturday Load Factor: 37.5% | Avg. Sunday Load Factor: 30.0%

Total Hourly Load Data - Kilowatts — **Swanton Hydro Gen 5**

DATE	DAY	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	NOON	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	MDNT	Total
AV WEEK DAY		181	181	190	201	211	213	202	213	229	237	236	234	229	214	206	196	195	198	199	199	206	217	218	218	
AVERAGE SAT		195	197	197	196	195	195	195	195	195	195	196	195	196	196	196	196	196	196	196	196	196	196	196	196	
AVERAGE SUN		196	196	196	196	196	196	197	197	197	197	196	196	196	196	182	128	89	88	88	88	88	88	88	88	
AV WKND DAY		196	196	196	196	196	195	196	196	196	196	196	196	196	196	189	162	142	142	142	142	142	142	142	142	
1	Tue	88	88	88	87	88	88	87	88	88	88	88	88	88	88	89	88	88	88	88	88	88	88	88	88	2,111
2	Wed	88	88	88	88	88	88	88	88	89	88	89	89	89	89	89	89	89	89	89	89	89	89	89	89	2,127
3	Thu	89	89	88	89	88	88	88	88	88	88	88	88	89	88	88	88	88	88	88	89	88	88	88	88	2,117
4	Fri	88	88	88	88	88	88	89	88	88	89	89	89	35	0	0	0	0	67	89	90	89	89	89	89	1,697
5	Sat	89	89	89	89	88	88	88	88	88	88	89	88	88	89	88	88	89	89	89	89	89	88	89	88	2,124
6	Sun	88	88	88	88	88	88	89	89	89	89	89	89	89	89	89	89	89	89	88	89	89	88	89	89	2,128
7	Mon	89	89	89	89	89	89	89	89	89	89	88	89	89	88	89	89	89	89	89	89	89	89	89	89	2,134
8	Tue	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	2,136
9	Wed	89	90	90	127	356	510	518	517	516	516	506	466	457	452	322	98	86	86	86	86	87	87	87	88	6,323
10	Thu	88	88	88	88	88	89	97	166	340	517	520	520	520	521	521	521	521	521	521	521	522	522	522	522	8,944
11	Fri	522	522	523	521	520	519	518	518	518	519	518	517	516	516	516	518	517	516	515	515	516	516	515	516	12,427
12	Sat	517	522	522	520	518	517	518	518	518	518	518	518	518	519	519	519	519	519	519	519	520	520	520	520	12,455
13	Sun	520	521	521	521	521	521	522	522	521	521	520	519	518	517	462	248	89	88	87	88	88	88	88	88	8,699
14	Mon	87	87	87	87	87	88	94	323	528	530	524	518	446	151	87	87	88	88	88	88	88	88	88	88	4,515
15	Tue	88	87	87	87	87	87	88	88	88	88	88	88	87	88	87	88	87	88	87	88	88	88	88	88	2,103
16	Wed	88	90	290	516	522	522	521	521	519	516	516	516	516	517	516	516	516	516	516	516	516	516	516	516	11,330
17	Thu	516	517	517	517	517	517	517	517	517	517	518	517	518	518	518	517	518	518	518	518	518	518	518	517	12,418
18	Fri	517	516	516	515	514	413	135	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	4,605
19	Sat	87	87	87	87	87	87	87	87	87	87	88	87	88	88	88	88	88	88	87	88	87	88	87	88	2,098
20	Sun	87	87	87	87	87	87	87	88	88	88	88	88	88	88	88	87	88	88	88	88	88	88	88	88	2,104
21	Mon	87	87	87	87	87	88	88	88	88	88	88	88	88	88	88	89	88	88	88	88	88	88	88	88	2,108
22	Tue	88	88	88	88	88	88	88	88	87	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	2,111
23	Wed	88	88	88	88	88	88	88	87	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	2,111
24	Thu	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	2,112
25	Fri	88	88	88	87	88	88	88	88	88	88	88	88	88	88	89	88	89	88	88	88	88	88	88	88	2,113
26	Sat	88	88	88	88	87	87	87	88	88	88	89	88	88	88	88	88	88	88	88	88	88	88	88	88	2,110
27	Sun	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	2,112
28	Mon	88	88	88	88	88	88	88	88	88	88	88	88	88	88	89	89	89	89	89	89	89	88	88	88	2,119
29	Tue	88	88	88	88	88	88	88	88	88	88	88	88	88	89	89	88	89	89	89	91	250	496	511	511	3,536
30	Wed	510	510	510	509	508	508	507	507	508	509	509	508	508	508	507	506	505	505	505	505	505	505	505	505	12,172
31	Thu	505	506	506	506	506	506	505	506	505	506	506	507	507	509	508	508	508	509	509	510	510	511	511	511	12,181

Vermont Public Power Supply Authority | Village of Swanton | Jun 01 - Jun 30, 2012

PEAK HOURLY LOAD: 513 KW at 2:00 AM on Friday June 1 | MAXIMUM DAILY LOAD: Thursday June 28 12,174 KWH

TOTAL MONTHLY LOAD: **81,701** KWH

NET HYDRO GEN.: 81,701 KWH | NET DIESEL GEN.: 0 KWH | NET PURCHASES: 0 KWH

Monthly (Also Avg. Daily) Load Factor: 22.1% | Avg. Weekday Load Factor: 24.7% | Avg. Saturday Load Factor: 96.0% | Avg. Sunday Load Factor: 99.4%

Total Hourly Load Data - Kilowatts — **Swanton Hydro Gen 5**

DATE	DAY	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	NOON	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	MDNT	Total
AV WEEK DAY		144	144	144	144	144	145	144	144	136	123	107	100	101	104	110	122	123	123	123	122	122	122	122	123	
AVERAGE SAT		82	82	82	83	83	83	83	83	84	84	84	83	83	83	83	83	82	82	81	81	81	81	81	82	
AVERAGE SUN		82	83	83	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	83	83	83	83	
AV WKND DAY		82	82	83	83	83	83	83	84	84	84	84	84	84	83	83	83	83	83	82	82	82	82	82	82	
1	Fri	512	513	512	512	511	511	510	508	329	92	83	82	83	83	83	83	83	82	81	81	80	80	79	81	5,654
2	Sat	81	82	83	84	84	84	83	84	83	83	83	82	81	81	81	81	81	81	80	81	80	80	80	80	1,963
3	Sun	80	82	83	84	84	84	84	84	84	84	84	83	83	82	82	83	83	83	83	82	81	80	79	80	1,981
4	Mon	81	83	84	84	84	84	83	83	83	84	83	83	83	82	82	83	82	81	80	79	79	78	79	80	1,967
5	Tue	81	83	84	84	84	83	83	84	83	83	83	82	82	84	84	84	83	82	81	80	79	78	79	79	1,972
6	Wed	80	82	83	84	84	84	84	83	84	83	83	82	81	81	80	79	78	78	78	78	78	78	79	80	1,944
7	Thu	81	82	83	84	84	84	84	84	84	84	83	83	81	81	80	79	78	78	78	78	78	78	78	79	1,946
8	Fri	80	80	81	82	83	83	84	84	84	84	84	83	83	82	82	82	81	81	81	80	80	80	79	79	1,962
9	Sat	80	80	81	81	82	82	83	83	84	84	84	83	83	83	82	82	82	81	81	80	80	81	81	82	1,965
10	Sun	82	82	83	83	83	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	83	83	2,007
11	Mon	83	83	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	83	83	83	83	83	83	83	2,007
12	Tue	83	83	83	83	83	83	83	83	83	83	83	83	84	83	84	83	83	83	84	83	84	83	84	84	1,998
13	Wed	84	84	84	84	84	84	84	84	84	65	0	3	33	86	86	86	86	86	86	86	86	86	86	86	1,803
14	Thu	86	86	86	85	85	86	86	86	85	85	85	85	84	84	83	83	82	81	81	80	80	80	80	81	2,005
15	Fri	81	82	82	83	83	84	84	84	85	85	85	86	85	85	85	85	84	84	84	83	84	84	84	85	2,016
16	Sat	85	85	84	85	85	85	85	85	85	85	85	85	86	85	86	85	84	83	83	84	83	84	84	84	2,030
17	Sun	83	84	83	84	84	84	83	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	2,013
18	Mon	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	2,016
19	Tue	84	84	84	84	84	84	84	84	84	84	84	84	84	84	85	84	84	84	84	85	84	84	84	84	2,018
20	Wed	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	2,016
21	Thu	84	84	84	84	84	84	84	84	84	84	84	84	85	84	85	84	84	85	84	84	84	84	84	84	2,019
22	Fri	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	2,016
23	Sat	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	2,016
24	Sun	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	2,016
25	Mon	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	2,016
26	Tue	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	2,016
27	Wed	84	84	84	84	84	84	84	84	84	84	84	85	86	88	218	481	504	504	506	507	506	507	506	507	5,929
28	Thu	507	507	506	505	504	505	505	507	508	509	508	508	507	507	507	507	509	509	509	508	508	508	508	508	12,174
29	Fri	508	508	508	508	508	508	508	508	508	483	223	82	81	79	78	77	77	76	76	76	76	76	77	78	6,287
30	Sat	78	79	79	79	80	80	81	81	82	83	83	83	83	84	83	82	81	80	79	78	77	78	78	78	1,929

Vermont Public Power Supply Authority | Village of Swanton | Jul 01 - Jul 31, 2012

PEAK HOURLY LOAD: 512 KW at 9:00 AM on Friday July 6 | MAXIMUM DAILY LOAD: Friday July 6 5,877 KWH

TOTAL MONTHLY LOAD: **63,935** KWH

NET HYDRO GEN.: 63,935 KWH | NET DIESEL GEN.: 0 KWH | NET PURCHASES: 0 KWH

Monthly (Also Avg. Daily) Load Factor: 16.8% | Avg. Weekday Load Factor: 17.2% | Avg. Saturday Load Factor: 96.3% | Avg. Sunday Load Factor: 96.4%

Total Hourly Load Data - Kilowatts — **Swanton Hydro Gen 5**

DATE	DAY	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	NOON	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	MDNT	Total
AV WEEK DAY		81	81	81	81	81	83	96	100	100	101	100	100	100	100	99	87	80	80	80	79	80	80	80	81	
AVERAGE SAT		80	80	81	81	81	81	81	81	82	81	82	81	81	81	82	82	81	81	81	81	80	81	81	81	
AVERAGE SUN		80	80	81	81	81	81	81	81	81	81	81	81	81	82	81	81	81	81	81	81	81	80	81	80	
AV WKND DAY		80	80	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	80	
1	Sun	79	80	80	81	81	82	82	83	83	83	83	83	83	82	81	81	81	81	80	80	80	79	80	79	1,947
2	Mon	79	79	79	79	79	80	80	80	80	80	80	80	80	80	80	80	79	78	78	78	78	78	78	79	1,901
3	Tue	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	80	79	79	79	79	79	79	79	1,897
4	Wed	79	79	79	80	80	80	80	80	80	80	81	80	80	81	80	81	81	81	81	81	81	81	81	81	1,928
5	Thu	81	82	82	81	82	81	81	81	81	81	80	80	80	80	80	79	79	78	78	77	77	77	79	80	1,917
6	Fri	81	83	83	84	84	124	409	511	512	512	508	508	510	506	485	232	82	81	81	80	80	80	80	81	5,877
7	Sat	82	82	83	83	83	84	84	84	84	84	84	83	83	83	83	83	82	81	81	80	80	81	81	81	1,979
8	Sun	81	81	81	81	81	81	81	81	81	81	81	81	81	81	82	81	82	82	82	81	81	80	80	80	1,945
9	Mon	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	1,896
10	Tue	79	79	79	79	79	79	79	79	79	79	80	80	80	80	80	80	81	81	81	81	81	81	81	81	1,918
11	Wed	80	80	81	80	80	81	81	81	80	81	81	80	80	81	80	80	80	81	80	80	80	80	80	80	1,928
12	Thu	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	1,920
13	Fri	80	80	80	80	80	80	80	80	80	81	80	80	81	80	81	80	80	81	81	80	81	80	81	80	1,927
14	Sat	80	80	80	80	80	80	80	80	81	81	81	81	81	81	81	81	81	81	81	81	80	80	81	80	1,933
15	Sun	80	80	80	80	80	80	80	80	80	80	80	80	80	81	80	80	80	80	80	80	80	80	80	80	1,921
16	Mon	80	80	80	80	80	80	80	80	80	80	80	80	80	81	80	81	81	81	81	80	81	80	80	80	1,926
17	Tue	80	80	80	80	80	80	80	80	80	80	80	81	80	81	80	81	80	81	80	81	80	80	80	81	1,926
18	Wed	81	80	81	81	80	81	81	81	81	82	82	81	81	81	81	80	80	79	78	78	78	79	79	80	1,926
19	Thu	80	81	81	82	82	82	82	82	83	82	82	82	82	82	82	82	82	82	82	82	82	82	82	81	1,964
20	Fri	82	81	81	82	81	82	82	82	81	81	81	80	80	80	80	80	80	80	80	80	79	80	80	80	1,935
21	Sat	79	79	79	79	79	79	79	79	80	79	79	79	80	79	80	80	80	80	80	80	79	80	79	79	1,905
22	Sun	79	79	79	79	79	79	79	79	79	79	80	79	80	80	80	80	80	80	80	80	80	80	80	80	1,909
23	Mon	80	80	80	79	80	80	80	80	80	80	80	80	80	80	80	79	80	80	72	50	82	82	81	82	1,887
24	Tue	82	82	82	82	82	83	82	82	82	81	79	79	79	79	79	79	79	79	79	79	79	79	79	79	1,926
25	Wed	79	79	79	79	78	79	79	79	79	79	80	81	80	80	80	80	79	78	78	78	79	79	80	81	1,902
26	Thu	82	82	82	82	82	82	83	82	83	83	83	82	83	82	82	81	81	81	81	82	82	83	83	84	1,973
27	Fri	84	84	85	85	85	85	85	85	85	85	85	85	85	84	82	80	80	80	80	80	80	80	80	80	1,989
28	Sat	80	80	80	80	81	80	81	81	81	81	82	81	81	82	82	82	82	82	82	82	82	82	82	82	1,951
29	Sun	82	82	83	82	83	82	83	83	83	83	83	84	83	84	84	84	84	84	83	83	83	83	83	83	1,994
30	Mon	83	83	82	82	83	83	83	83	83	83	83	83	83	83	84	84	84	84	84	84	83	83	83	83	1,996
31	Tue	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	1,992

Vermont Public Power Supply Authority | Village of Swanton | Aug 01 - Aug 31, 2012

PEAK HOURLY LOAD: 493 KW at 2:00 PM on Sunday August 5 | MAXIMUM DAILY LOAD: Sunday August 5 2,701 KWH

TOTAL MONTHLY LOAD: **61,042** KWH

NET HYDRO GEN.: 61,042 KWH | NET DIESEL GEN.: 0 KWH | NET PURCHASES: 0 KWH

Monthly (Also Avg. Daily) Load Factor: 16.6% | Avg. Weekday Load Factor: 81.5% | Avg. Saturday Load Factor: 99.3% | Avg. Sunday Load Factor: 18.2%

Total Hourly Load Data - Kilowatts — **Swanton Hydro Gen 5**

DATE	DAY	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	NOON	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	MDNT	Total
AV WEEK DAY		79	79	78	78	78	79	79	79	79	82	82	82	82	82	82	81	79	81	82	82	82	82	82	82	
AVERAGE SAT		82	82	82	82	82	82	82	82	82	83	83	83	83	83	83	83	83	83	83	83	83	83	83	82	
AVERAGE SUN		83	82	83	82	82	82	82	82	83	82	83	82	183	185	185	116	62	66	62	62	62	62	62	61	
AV WKND DAY		82	82	82	82	82	82	82	82	82	82	83	82	133	134	134	99	72	74	72	72	72	72	72	72	
1	Wed	83	83	83	83	83	84	83	83	83	84	83	84	84	84	84	84	84	84	83	83	83	83	84	83	2,002
2	Thu	83	83	83	83	83	83	84	83	83	84	84	84	84	84	84	84	84	84	84	84	83	83	83	83	2,004
3	Fri	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	1,992
4	Sat	83	82	83	83	82	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	1,990
5	Sun	83	83	83	83	83	83	83	83	84	83	84	83	485	493	492	215	0	18	0	0	0	0	0	0	2,701
6	Mon	0	0	0	0	0	0	0	0	20	83	84	84	84	83	84	84	84	99	81	82	81	81	82	81	1,277
7	Tue	81	82	81	81	81	82	81	82	82	81	82	82	82	82	82	82	82	82	82	82	82	82	82	82	1,962
8	Wed	82	82	82	82	81	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	1,967
9	Thu	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	1,968
10	Fri	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	83	83	82	82	82	82	82	1,970
11	Sat	82	82	82	82	82	82	82	82	82	82	83	82	82	83	83	83	83	82	83	83	83	82	82	82	1,976
12	Sun	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	83	83	83	83	83	83	82	83	82	1,975
13	Mon	83	82	83	82	82	83	83	83	83	82	83	83	82	83	82	82	82	82	82	82	82	82	82	82	1,977
14	Tue	82	83	82	82	82	82	82	82	82	82	82	82	82	82	83	82	82	83	82	83	83	82	83	82	1,974
15	Wed	82	82	82	82	82	82	83	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	1,969
16	Thu	82	82	82	82	82	82	82	82	82	82	83	82	82	82	82	82	82	82	82	82	82	82	82	82	1,969
17	Fri	82	82	82	82	82	82	82	82	82	82	82	82	82	82	83	82	82	82	83	82	82	82	82	82	1,970
18	Sat	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	1,968
19	Sun	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	1,968
20	Mon	82	82	81	81	81	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	1,965
21	Tue	82	82	81	81	81	81	82	82	82	82	82	82	82	82	82	82	82	82	82	82	83	82	83	82	1,966
22	Wed	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	1,968
23	Thu	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	1,968
24	Fri	82	82	82	82	82	82	82	82	82	82	82	83	82	82	83	82	83	82	83	82	82	82	83	82	1,973
25	Sat	82	82	82	82	82	82	82	82	82	83	82	83	83	83	83	83	83	83	83	83	83	83	83	82	1,981
26	Sun	83	82	83	82	82	82	82	82	82	82	82	82	83	82	82	82	82	82	82	82	82	82	81	81	1,969
27	Mon	82	81	81	82	81	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	1,965
28	Tue	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	1,968
29	Wed	82	82	81	82	81	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	81	82	81	1,964
30	Thu	82	81	81	81	81	81	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	1,963
31	Fri	82	82	82	82	82	82	82	82	82	82	82	82	81	82	81	56	0	25	84	84	84	84	84	84	1,813

27 FERC ¶62,181

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Swanton Village, Vermont) Project No. 2547-001

ORDER ISSUING LICENSE (MAJOR)

(Issued May 24, 1984)

Swanton Village, Vermont (Applicant) has filed an application for a license under Part I of the Federal Power Act (Act) to construct, operate, and maintain the Highgate Falls Project No. 2547. 1/ The project will be located on the Missisquoi River, a navigable waterway of the United States in Franklin County, Vermont.

Notice of the application has been published and comments have been received from interested Federal, State, and local agencies. No protests have been received and none of the agencies object to the issuance of the license. The Attorney General of the State of Vermont was granted intervention to represent the legal interests of the State of Vermont.

Project History and Description

The project was constructed in 1928 with an installed capacity of 900 kW. Additional capacity was installed in 1930 and 1954, for a total capacity of 4,600 kW. The existing project consists of a 240-foot-long and 25-foot-high concrete dam with a crest elevation of 168.8 feet USGS; 2-foot-high flashboards on top of the dam; a reservoir with a surface area of 65 acres at an elevation of 170.8 feet USGS and a storage capacity of 500 acre-feet; a penstock; a powerhouse with an installed capacity of 4,600 kW; and electrical facilities.

1/ Authority to act on this matter is delegated to the Director, Office of Electric Power Regulation, under §375.308 of the Commission's regulations, 18 C.F.R. §375.308 (1983). This order may be appealed to the Commission by any party within 30 days of its issuance pursuant to Rule 1902, 18 C.F.R. §385.1902 (1983). Filing an appeal and final Commission action on that appeal are prerequisites for filing an application for rehearing as provided in Section 313(a) of the Act. Filing an appeal does not operate as a stay of the effective date of this order or of any other date specified in this order, except as specifically directed by the Commission.

Applicant proposes to raise the crest elevation of the dam to 180 feet USGS; install four bays of stanchion stoplogs and two Taintor gates on top of the dam to raise the reservoir surface elevation to 200 feet USGS (the reservoir will have a surface area of 355 acres and a storage capacity of 7,000 acre-feet), and construct an expansion to the powerhouse to install a fourth unit with a capacity of 3,425 kW. A more detailed project description is contained in ordering paragraph (B).

Safety and Adequacy

The Staff inspected the project and found that with the exception of some surface deterioration on the concrete buttresses, the project structures appeared to be in good condition. The existing structure is classified as low hazard.

The Highgate Falls Dam is located about 5 miles upstream of the Town of Swanton Village. Based on data from the 1964 USGS 7-1/2 minute quadrangle sheets "Highgate Center" and "East Albany, Vermont", a dam break analysis indicates that several buildings are located in the flood plain. Therefore, the dam with the proposed modifications should be classified significant hazard until the nature of the buildings is determined.

The Probable Maximum Flood (PMF) for the project is estimated to be 275,000 cubic feet per second (cfs). Based on the Exhibit L drawings filed with the application, the spillway capacity is estimated to be 109,000 cfs with the pool at elevation 107 feet mean sea level. Depending on the adopted spillway Design Flood Hydrograph in the final design of the project and the operating procedures to be used during flood conditions, the spillway capacity may not be adequate.

Stability analyses show that the dam as proposed to be modified develops tension at the heel under all loading conditions.

The proposed modifications as shown on the Exhibit L drawings are preliminary and conceptual in nature. License Article 29 requires the Licensee to file Exhibit L drawings and conduct detailed flood study and stability analyses of the project works for the Commission's approval prior to start of construction.

Minimum Flows

The Vermont Agency of Environmental Conservation (AEC) recommended that a minimum flow of 200 cfs be maintained downriver of the tailrace at all times for the protection of fishery resources and the maintenance of water quality. The AEC further stated that if the inflow falls below 200 cfs then the flow below the tailrace should be maintained equal to the instantaneous inflow to the

reservoir. The AEC also recommended that a minimum flow of 35 cfs be maintained in the 1,100-foot-long bypass section of the river (between the dam and the project discharge point) at all times during and after project construction to maintain existing fishery habitat and water quality in this area. The Department of the Interior (Interior) recommended that a minimum instantaneous release of 309 cfs (historic median daily August flow), or inflow to the project, whichever is less, be discharged below the tailrace. In addition, Interior recommended that a minimum flow of 100 cfs or inflow to the project, whichever is less, should be released at the dam for maintenance of water quality and habitat within the bypass reach. The Applicant has agreed to maintain both the 200 cfs and 35 cfs minimum flows as recommended by the AEC. The Applicant states that these minimum flow requirements will conform to the State water quality certificate for the project.

It is concluded that there is a need for a minimum flow to protect the water quality and aquatic resources downriver of the project dam; however, available information is insufficient to determine an appropriate minimum flow. Therefore, Article 35 requires the Licensee to conduct studies to determine flows necessary to protect and enhance water quality and aquatic resources. Further, it is concluded that the release of minimum flows of 200 cfs and 35 cfs, as recommended by AEC, on an interim basis will provide adequate protection of the project fishery until the aforementioned required studies are completed and an appropriate minimum flow is established. Therefore, Article 34 requires Licensee to maintain interim minimum flows of 35 cfs in the bypass reach and 200 cfs downriver of the tailrace.

Reservoir Water Level Fluctuations

The AEC stated that the Highgate Falls reservoir supports a good smallmouth and rock bass fishery. The AEC stated further that operation of the proposed facility in a peaking mode with a maximum drawdown of 2.5 feet could impact the spawning success of these species during the spawning season of April and May. The AEC has recommended that during the spawning season the project should be operated in a strict run-of-river mode such that the instantaneous outflow equals the instantaneous inflow to the reservoir. The Applicant has agreed to comply with the AEC recommendations.

The operation of the project in a run-of-river mode during April and May would adequately protect the spawning habitat of smallmouth and rock bass in the Highgate Falls Reservoir. Article 36 requires a run-of-river mode of operation for the project between March 31 and June 1.

Fisheries Resources

The AEC recommended that the Applicant participate in a fish stocking program for the project reservoir as mitigation for the

loss of existing river fisheries that would occur as a result of raising the elevation of the dam. The Vermont Department of Fish and Game (DFG) has expressed interest in creating a walleye fishery in the reservoir to augment those fisheries provided by smallmouth and rock bass. The AEC also recommended that the Applicant, in consultation with the DFG, create habitat for walleye spawning and smallmouth bass in the riffle area downriver of the tailrace to mitigate for the lost aquatic habitat in the bypass reach. This habitat would be created prior to the start of the proposed project operation. The requirement for creating fishery habitat downriver of the tailrace would conform to a condition within the State water quality certificate for the project.

Interior stated that mitigation measures, such as stocking the reservoir, have been proposed by the Applicant, but an overall fish and wildlife mitigation plan is lacking. Interior has, therefore, recommended that the Applicant develop a comprehensive mitigation plan for the project within 1 year from issuance of the license, in cooperation with the AEC and U. S. Fish and Wildlife Service (FWS). Interior also stated that fish passage facilities are not needed at the project at this time, but recommended that an article be included in the license to require fish-passage facilities when prescribed by the Secretary of the Interior.

The Applicant has agreed to participate in a stocking program for the project reservoir and has proposed to submit a suitable stocking plan to the Commission within 1 year of issuance of a license. The Applicant also stated it had no objection to preparing a comprehensive mitigation plan that would summarize the existing plans for mitigation and enhancement.

Operation of the Highgate Falls Project will result in the inundation of existing riffle areas upriver of the dam, and modification of the present flows, downriver of the dam. Consequently, operation of the project is expected to adversely impact these existing aquatic habitats. Article 37 requires the Licensee to participate in a fish stocking program in the reservoir and to create fisheries habitat downriver of the tailrace. The Licensee is being required to include these fish enhancement programs as part of the development of a fish mitigation plan, prepared after consultation with the AEC and the FWS, to include, as appropriate, other measures to protect and enhance aquatic resources affected by the project.

There is no apparent need for fish passage facilities at the project dam at this time; however, Article 15 provides for fish passage facilities in the future, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior after notice and opportunity for hearing.

Water Quality

The Vermont Department of Water Resources and Environmental Engineering issued a water quality certificate for the project on December 9, 1983.

Based on water quality studies conducted in the existing reservoir the AEC indicated that: (1) deep regions in the project reservoir, not in the main flow of water, are likely to be deficient in oxygen during the summer; and (2) the project reservoir would experience thermal stratification. The AEC stated that water low in dissolved oxygen (DO) released from the project could adversely impact the muskellunge population downriver of the dam. The AEC recommended that the Applicant install its proposed reaeration structure to increase DO levels in water discharged from the project. The AEC requested that: (1) the final engineering plans for the reaeration structure be submitted for review by the AEC before commencement of construction of the project, (2) the reaeration structure be installed prior to the start of operation, and (3) the reaeration structure should be operated as proposed by the Applicant.

The Applicant proposes to construct aeration weirs in the tailrace to provide adequate DO levels in the Missisquoi River for the protection of aquatic resources. Applicant proposes to use these weirs during the period of June 15 to September 15, when water withdrawn from the bottom of the reservoir for operation of the proposed two small turbines would be deficient in DO. The Applicant prefers, however, not to allocate the resources necessary for final engineering design of these weirs until all necessary permits are received for the project.

It is concluded that operation of the proposed project could result in decreases in DO levels to below State water quality standards of 5 mg/l, especially during summer low flow periods. To ensure the protection of water quality and aquatic resources downriver of the project dam, Licensee should design, construct, and operate the proposed reaeration structure as described previously. However, there is insufficient information to determine the adequacy of the proposed reaeration structure to maintain State DO standards. Article 38 requires the Licensee to design, construct, and operate the proposed reaeration device of the Highgate Falls Dam after review and approval of the structure by the AEC. Article 39 requires the Licensee to maintain State DO standards, and, if necessary, implement changes in operations or project structures to maintain the State standards for DO.

Nuisance Aquatic Plants

The AEC stated that the existing reservoir presently experiences eutrophic conditions, and, that the potential exists for algal blooms and the growth of nuisance aquatic plants. However, the

AEC stated that, based on the water quality studies, it appears that the estimated summer mean chlorophyll concentrations in the proposed reservoir would be no greater than that which presently exists. The AEC concluded that eutrophic conditions in the proposed reservoir would not result in the lowering of DO levels to the extent of constituting a violation of Vermont's water quality standards. However, the AEC indicated that if recreational use of the project reservoir demands weed harvesting or similar remedial measures in order to improve recreational and aesthetic values, the responsibility for taking such actions should not be borne exclusively by the State.

The potential does exist for nuisance aquatic plants and algal blooms in the project reservoir. If algal blooms and nuisance aquatic plants develop in the project reservoir, resulting in impaired recreational use and poor aesthetic values, Licensee should take appropriate action to resolve the problems. Article 40 requires the Licensee, through consultation with the AEC, to participate in clean-up of nuisance algal blooms, and aquatic plants, in order to accommodate recreational use of the project reservoir.

Erosion Control Plan

The AEC stated that the Applicant should prepare a comprehensive erosion control plan to minimize erosion, resulting sedimentation, and reduction in water quality associated with project construction and operation. The AEC further recommended that the plan include temporary and permanent measures to limit the discharge of sediment into State waters during construction and operation of the proposed facilities. The preparation of an erosion control plan is required as a condition of the water quality certificate for the project.

In the application, the Applicant stated that any disturbed areas subject to erosion that could cause sedimentation and turbidity impacts will be protected during construction. In addition, permanent stabilization will be completed immediately after final grading.

An erosion control plan is warranted because expansion of the reservoir will require the clearing and flooding of about 180 acres of land with significant run-off and erosion potential in addition to increased turbidity and sedimentation related to the construction of facilities. Article 41 requires the Licensee, after consultation with appropriate agencies, to develop and file with the Commission prior to the start of project construction, an erosion control plan.

Wetlands

Construction of the project will result in the inundation of approximately 37 acres of wetlands. The Applicant has proposed creating a 3-acre regulated marsh area. In addition, the Applicant predicts that 30 to 40 acres of wetland areas will naturally develop around the new reservoir shoreline.

The AEC commented that the license should be conditioned to require the Licensee to develop a small marsh to partially mitigate for the loss of wetlands. The AEC also stated that about 30 acres of wetlands could be reestablished.

Interior recommended that a comprehensive mitigation plan for the project be developed to include quantification of habitat value losses. The U. S. Forest Service commented that the Applicant has not proposed any alternative courses of action for mitigating impacts on wetlands, nor stated how many acres of replacement wetlands would be provided. The U. S. Army Corps of Engineers commented that it does not consider the 3-acre marsh area proposed by the Applicant to be sufficient mitigation for the loss of approximately 36 acres of wetlands with the project development.

Considering the importance of wetland habitat, 3 acres is insufficient to replace the habitat that will be lost. In addition to developing the regulated marsh area, the Licensee should monitor the wetland development that will occur around the new impoundment. If the additional 30 acres of wetlands do not reestablish naturally, the Licensee must develop additional wetland areas. License Articles 42 and 43 require the Licensee to file plans for developing its proposed 3-acre marsh area, to monitor the developing wetland areas around the expanded project reservoir, and to file a development plan to create additional wetland areas, if necessary.

Historical and Archeological Resources

The Highgate Falls Archeological District (District), a property determined eligible for the National Register of Historic Places (National Register), is located along the periphery of the existing reservoir. The Douglas and Jarvis Patent Parabolic Truss Bridge (Bridge), a property listed in the National Register, is located adjacent to the downriver side of the dam. Several historic archeological sites exist in the vicinity of the upriver end of the reservoir (upriver sites) and may be eligible for the National Register.

Construction of the proposed facilities will result in the inundation and disturbance of a portion of the District. Increasing the height of the dam will result in a visual impact on the Bridge. The stability of the Bridge could also be affected by construction activities associated with increasing the height of the dam.

The Applicant has filed plans to avoid and mitigate impacts to the District, Bridge and upriver sites, prepared in consultation with the Vermont State Historic Preservation Officer (SHPO). The plan for the District has also been prepared in consultation with the National Park Service and the Advisory Council on Historic Preservation (Council). The SHPO has stated that the project will not have an adverse effect on the District and Bridge if the plans are implemented prior to construction of the project.

It is concluded, and the Council concurs, that the project impacts on the District, Bridge and upriver sites could be avoided or mitigated if the plans are implemented prior to construction of the project. Article 44 requires implementation of the plans.

Recreational Resources

The application identifies locations for canoe portages and a proposed boat launching facility in its Exhibit R. The Town of Highgate, where the boat launching facility would be located, indicated to the Applicant that it was extremely reluctant to have a boat launching facility and cited the potential for vandalism and increased burden on the Town. Applicant, therefore, requested that the proposed boat launching facility along the relocated segment of Route 78 be indefinitely deferred. Article 17 provides for a boat launching facility and additional recreational development at the project should the need be demonstrated.

The AEC recommended that the Applicant provide for public access and small boat or canoe launching, in addition to well-marked signs identifying the portage. Applicant stated that the portage areas will provide for public access and small boat and canoe launching. Article 45 requires the Licensee to consult with the AEC regarding the location of the portage and safety warning signs, and file a drawing, along with supportive correspondence from the AEC, identifying the exact location(s) and language of such signs.

ENVIRONMENTAL IMPACTS

Approval of the application will result in short-term minor impacts, primarily during the construction period, relative to river flow, turbidity, water quality, fisheries, erosion, and minor mitigated long-term impacts relative to river flow and fluctuation, aeration, oxygen, visual, historical, archeological, wetlands, and recreational resources. On the basis of the record and Staff's independent analysis, it is concluded that issuance of a license, as conditioned herein, for the project will not constitute a major Federal action significantly affecting the quality of the human environment.

Other Aspects of Comprehensive Development

The project is presently operating with an installed capacity of 4,600 kW. After modifications, it will have an installed capacity of 8,025 kW and generate an average of 49,300,000 kWh annually. 3/ The project is economically feasible when compared to the cost of an equivalent amount of power from the least cost thermal alternative.

The project will make good use of the flow and fall of the Missisquoi River, is not in conflict with any planned or potential development, and will be best adapted to the comprehensive development of the basin for beneficial purposes upon compliance with the terms and conditions of the license.

License Term and Annual Charges

The proposed new capacity project using an existing dam is similar to relicensing an existing licensed project at which a moderate amount of new development is proposed; therefore, consistent with the Commission's policy, this license will terminate on April 30, 2024 (40 years from the month issued). 4/

For projects having no valid (pre-1920) Federal permit and located on navigable waters, past Commission policy under the Androscoggin rule has been to issue a license effective as of April 1, 1962, or the date when a Commission finding of navigability has been made, whichever is earlier. 5/ The effective date of this license would normally be April 1, 1962; however, because of the 50-year maximum statutory license period this license is effective May 1, 1974.

In accordance with the order issuing a license for the Shoshone Falls Project, 6/ annual charges will be based on the effective date of the license, but this license will also be conditioned upon payment of an amount equivalent to the annual charges that would

---

3/ The project, with its average annual generation of 49,300,000 kWh will utilize a renewable resource that will save the equivalent of approximately 80,900 barrels of oil or 22,800 tons of coal.

4/ Village of Lyndonville Electric Department, 7 FERC ¶61,324 (1979).

5/ See Public Service Company of New Hampshire, Project No. 2288, 27 FPC 830 (1962).

6/ See Idaho Power Company, Project No. 2778, issued June 13, 1979. FERC ¶61,254.

otherwise have been due for the period from April 1, 1962, to April 30, 1974. This payment is not a penalty, but is intended to place the Applicant as nearly as possible in the same position it would have been in before our change in termination date policy, and the same position as similarly situated Licensees who received their license before that change in policy. Article 45 stipulates this payment as well as the Licensee's annual charges.

It is ordered that:

(A) This license is issued to the Swanton Village, Vermont (Licensee), under Part I of the Federal Power Act (Act), for a period effective May 1, 1974, and terminating April 30, 2024, for the construction, operation, and maintenance of the Highgate Falls Project No. 2547, located in Franklin County, Vermont, on the Missisquoi River, a navigable river of the United States. This license is subject to the terms and conditions of the Act, which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the Act.

(B) The Highgate Falls Project No. 2547 consists of:

(1) All lands, to the extent of the Licensee's interests in those lands, constituting the project area and enclosed by the project boundary. The project area and boundary are shown and described by certain exhibits that form part of the application for license and that are designated and described as:

Exhibit	FERC No. 2457-	Showing
J-1	9	Project Location Map
K-1	10	Project Area Map
K-2	11	Project Works Area Map

(2) Project works consisting of: (a) the 240-foot-long and 36.2-foot-high concrete dam with a crest elevation of 180.2 feet USGS; (b) stanchion stoplogs and gate sections on top of the dam raising the water surface elevation to 200 feet USGS; (c) a reservoir with a surface area of 355 acres and a storage capacity of 7,000 acre-feet; (d) an intake structure at the west side of the dam; (e) a 509-foot-long concrete conduit 10.5 feet high by 10.5 feet wide; (f) a 243-foot-long and 12-foot-diameter steel penstock; (g) a surge tank; (h) a powerhouse with 4 turbine-generator units with a total capacity of 8,025 kW; (i) four 6.6-kV generator leads, a 3-phase 6.6/12.5/46-kV 7.5-MVA transformer, a 3-phase 6.6/12.5/46-kV 5.0-MVA transformer; and (j) other appurtenances.

The location, nature, and character of these project works are generally shown and described by the exhibits cited above and more specifically shown and described by a certain other exhibit that also forms part of the application for license and that is designated and described as:

Exhibit	FERC No. 2457-	Showing
L-1	12	Dam Plan, Elevation and Sections
L-2	13	Intake and Penstock
L-3	14	Powerhouse Plan and Elevations
L-4	15	Powerhouse and Surge Tank Sections

(3) All of the structures, fixtures, equipment, or facilities used or useful in the operation or maintenance of the project and located within the project boundary, all portable property that may be employed in connection with the project, located within or outside the project boundary, as approved by the Commission, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) Exhibits J, K, and L, designated in ordering paragraph (B) above, and Exhibit M of the application entitled "General Description of the Equipment of the Project", are approved and made part of the license.

(D) This license is also subject to the terms and conditions set forth in Form L-4 (revised October 1975), entitled "Terms and Conditions of License for Unconstructed Major Project Affecting Navigable Waters of the United States", attached to and made part of this license. This license is also subject to the following additional articles:

Article 29. The Licensee shall submit in accordance with the Commission's Rules and Regulations revised Exhibit L drawings and a supporting design report showing the final design of major project works, and shall not begin construction of any major project structures until the Director, Office of Electric Power Regulation, has approved the Exhibit L drawings. The supporting design report shall include detailed stability analyses for all water retention structures under conditions of normal water load, normal water load plus maximum credible earthquake, normal water load plus ice loading and the spillway design flood. The spillway design flood shall be the Probable Maximum Flood (PMF) unless detailed studies are submitted that show that failure of the project structures for lesser magnitude floods would not endanger

downstream life or cause significant property damage. The analysis of the stoplogs shall include a detailed analysis of the tripping or failure mechanism and an evaluation of the downstream hazard potential of their failure.

In the event that the spillway design flood is determined to be the PMF, the PMF study shall be submitted in sufficient detail to permit an independent evaluation of all assumptions and parameters including: PMF values and precipitation losses and excesses for each sub-area of the watershed; the time distribution of the PMF; and calibration of the runoff and streamcourse models with historical floods.

Article 30. The Licensee shall within 90 days of completion of construction file for approval by the Director, Office of Electric Power Regulation, revised Exhibits J, K, L, and M to describe and show the project as-built.

Article 31. The Licensee shall file with the Commission's Regional Engineer and the Director, Office of Electric Power Regulation, one copy each of the contract drawings and specifications for pertinent features of the project, such as water retention structures, powerhouse and water conveyance structures, at least 60 days prior to start of construction. The Director, Office of Electric Power Regulation, may require changes in the plans and specifications to ensure a safe and adequate project.

Article 32. The Licensee shall commence the construction of the project works within two years from the issuance date of the license and shall complete construction of the project within four years from the issuance date of the license.

Article 33. The Licensee shall review and approve the design of contractor-designed cofferdams and deep excavations prior to the start of construction and shall ensure that construction of cofferdams and deep excavations are consistent with the approved design. At least 30 days prior to start of construction of the cofferdam, the Licensee shall file with the Commission's Regional Engineer and Director, Office of Electric Power Regulation, one copy of the approved cofferdam construction drawings and specifications, and a copy of the letter(s) of approval.

Article 34. The Licensee shall discharge from the Highgate Falls Project, an interim continuous minimum flow of 200 cubic feet per second (cfs) as measured downriver of the tailrace, or inflow to the reservoir, whichever is less, for the purpose of protecting and enhancing aquatic resources of the Missisquoi River. Further Licensee shall discharge from the Highgate Falls Project Dam an interim continuous minimum flow of 35 cfs for the purpose of protecting and enhancing aquatic resources of the bypass reach. These flows may be temporarily modified if required by operating emergencies beyond the control of the Licensee, and

for the minimum flow studies required by Article 35, and for short periods for fishery management purposes upon mutual agreement between the Licensee and the Vermont Agency of Environmental Conservation.

Article 35. The Licensee shall, after consultation and cooperation with the Vermont Agency of Environmental Conservation, and the U. S. Fish and Wildlife Service, conduct studies to determine the minimum flow releases needed at the Highgate Falls Project to ensure protection and enhancement of water quality and the fishery resources of the Missisquoi River. Further, Licensee shall, within 1 year from the date of issuance of this license, file, with copies to the agencies consulted, a report on the results of the studies, and for Commission approval, recommendations for minimum flow releases from the project. Documentation of agency consultation on the report and recommendations shall be included in the filing.

Article 36. The Licensee shall operate the Highgate Falls Project in an instantaneous run-of-river mode between March 31 and June 1 for the protection and enhancement of aquatic resources. Licensee, in operating the Highgate Falls Project in an instantaneous run-of-river mode during the designated time, shall at all times act to minimize the fluctuation of the reservoir surface elevation, i.e., maintain a continuous discharge from the project, which approximates the instantaneous sum of all inflow to the reservoir. Instantaneous run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the Licensee, and for short periods for fishery management purposes upon mutual agreement between the Licensee and the Vermont Agency of Environmental Conservation.

Article 37. The Licensee shall, in consultation with the Vermont Agency of Environmental Conservation and the U. S. Fish and Wildlife Service, develop a plan to minimize or mitigate the impacts of the project on fishery resources in the Missisquoi River. In developing this plan, Licensee shall include a program for fish stocking in the project reservoir, creation of fisheries habitat downriver of the tailrace, and other measures to protect and enhance fishery resources in the Missisquoi River. Further, Licensee shall, within 1 year from the date of issuance of this license, file the plan along with comments from the above-mentioned agencies, and, for Commission approval, recommendations to minimize or mitigate the impacts of the project on fishery resources.

Article 38. The Licensee shall, after consultation with the Vermont Agency of Environmental Conservation, design a reaeration structure to ensure protection of water quality and aquatic resources in the Missisquoi River downriver of the Highgate Falls Dam. Further, Licensee shall, within 6 months from the date of issuance of this license, file with the Commission, design details

of the reaeration structure, which shall include a construction schedule and proposed mode of operation. Comments from the Vermont Agency of Environmental Conservation on the adequacy of the structure, to ensure protection of downriver water quality and aquatic resources, shall be included in the filing.

Article 39. The Licensee shall maintain in the Missisquoi River, the State of Vermont's dissolved oxygen standard, as measured immediately downriver of the project dam, for the protection of aquatic resources. Licensee shall, after consultation with the Vermont Agency of Environmental Conservation and the U. S. Fish and Wildlife Service, monitor the dissolved oxygen concentrations at the project during the first year of operation.

Further, if the results of the 1-year monitoring program indicate that changes in project structures or operation are necessary to maintain the State of Vermont dissolved oxygen standard, Licensee shall, within 3 years from the date of issuance of this license, file a report on the results of the monitoring, and for Commission approval, recommendations for changes in project structures and operations. Copies of agency letters of comment on the adequacy of the recommended changes shall be included in the filing. At the same time, copies of the report shall be served upon the agencies consulted.

Article 40. The Licensee shall, after consultation and coordination with the Vermont Agency of Environmental Conservation, implement appropriate remedial action as required to mitigate and minimize adverse impact to recreational use and aesthetic values caused by nuisance aquatic plants and algal blooms in the Highgate Falls Project reservoir.

Article 41. The Licensee shall, in consultation with the Vermont Agency of Environmental Conservation, develop a detailed plan to control erosion, sedimentation, and other pollutants resulting from construction, and operation, and maintenance of the project. This plan shall include an implementation schedule, monitoring and maintenance programs for project construction and operation, and evidence of agency consultation. The Licensee shall, within 1 year from the date of issuance of this license, or 60 days prior to any ground disturbing activity or spoil disposal at the project, whichever occurs first, file the plan with the Commission's Regional Engineer in New York City and the Director, Office of Electric Power Regulation. The Director, Office of Electric Power Regulation, reserves the right to require changes in the plan.

Article 42. The Licensee shall, after consultation with the Vermont Agency of Environmental Conservation and the U. S. Fish and Wildlife Service, file with the Commission within 1 year of the date of issuance of this license its implementation plan for the development of the 3-acre wetland area referenced in the Exhibit S of the

application. The plan shall specify the methodology to be employed, a schedule for implementation, and evidence of agency consultation. The Director, Office of Electric Power Regulation may require modifications to the plan.

Article 43. The Licensee shall, after consultation with the Vermont Agency of Environmental Conservation and the U. S. Fish and Wildlife Service and within 1 year from the date of issuance of this license, file for Commission approval, a study plan to monitor the development of wetlands around the project reservoir. The study shall assess the wetlands which become established naturally around the newly created reservoir shoreline, including acreage, types of plant communities and quality of wetland habitat. The plan shall include an implementation schedule and evidence of agency consultation. Within 5 years from the date of issuance of this license, Licensee shall file the results of the above completed study. If wetlands have not developed to the extent (30 to 40 acres) or quality predicted, the Licensee shall include in the filing, for Commission approval, a mitigation plan to develop replacement wetland areas for those lost by project inundation. Comments from the Vermont Agency of Environmental Conservation and the U. S. Fish and Wildlife Service on the results of wetland development and any proposed mitigation plan shall be included in the filing. The Director, Office of Electric Power Regulation may require modification to any proposed plans.

Article 44. The Licensee shall, in cooperation with the Vermont State Historic Preservation Officer (SHPO), and within 1 year from the date of issuance of this license, or 60 days prior to any ground-disturbing activity or spoil disposal of the project, whichever comes first, implement its cultural resource management plans (Plans) that were filed with the Commission by Licensee's letter dated June 21, 1983, and SHPO's letter dated January 12, 1984. Licensee shall make available funds in a reasonable amount for any such work as required. If any previously unrecorded archeological or historical sites are discovered during the course of construction or development of any project works or other facilities at the project, construction activity in the vicinity shall be halted, a qualified archeologist shall be consulted to determine the significance of the sites, and the Licensee shall consult with the SHPO to develop a mitigation plan for the protection of significant archeological or historic resources. If the Licensee and the SHPO cannot agree on the amount of money to be expended on archeological or historic work related to the project, the Commission reserves the right to require the Licensee to conduct, at its own expense, any such work found necessary.

Article 45. The Licensee shall, in consultation with the Vermont Agency of Environmental Conservation and other appropriate agencies, and within 1 year from the date of issuance of this license prepare and file with the Commission a drawing, which

identifies the locations(s) and language of portage and safety warning signs at the project along with correspondence from the consulted agencies. The signs shall be in place prior to completion of construction of the facilities approved herein.

Article 46. The Licensee shall pay the United States the following amounts for the purpose of reimbursing the United States for the cost of administration of Part I of the Act:

(1) For the period from April 1, 1962, through April 30, 1974, an amount equal to the full annual charge that would have applied for the period if the project had been licensed during that period. The authorized installed capacity for this purpose is 6,100 horsepower.

(2) For the period from May 1, 1974, through April 30, 1984, the full annual charge ordinarily due in accordance with the Commission's regulations. The authorized installed capacity for this purpose is 6,100 horsepower.

(3) From May 1, 1984, the full annual charge computed in accordance with the Commission's regulations in effect from time to time. The authorized installed capacity for this purpose is 10,700 horsepower.

Article 47. The Licensee shall, within 90 days from the date of acceptance of this license, file a statement under oath showing the gross amount of power generation for the project in kilowatt-hours for each calendar year commencing April 1, 1962, in accordance with the provisions of Section 11.20(a)(4) of the Commission's regulations.

Article 48. The Licensee shall, (a) In accordance with the provisions of this article, have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain other types of use and occupancy, without prior Commission approval. The Licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the Licensee shall also have continuing responsibility to supervise and control the uses and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the Licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the Licensee shall take any lawful action necessary to correct the violation. For a permitted use or

occupancy, that action includes, if necessary, cancelling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The types of use and occupancy of project lands and waters for which the Licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time where said facility is intended to serve single-family type dwellings; and (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the Licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The Licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the uses and occupancies for which it grants permission are maintained in good repair and comply with applicable State and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the Licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the Licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the Licensee's costs of administering the permit program. The Commission reserves the right to require the Licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The Licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges and roads for which all necessary State and Federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the Licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The Licensee may convey fee titles to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary State and Federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary Federal and State water quality certificates or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary Federal and State approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from the edge of the project reservoir at normal maximum surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 45 days before conveying any interest in project lands under this paragraph (d), the Licensee must file a letter to the Director, Office of Electric Power Regulation, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G or K map may be used), the nature of the proposed use, the identity of any Federal or State agency official consulted, and any Federal or State approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the Licensee to file an application for prior approval, the Licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraphs (c) or (d) of this article:

(1) Before conveying the interest, the Licensee shall consult with Federal and State fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the Licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include covenants running with the land adequate to ensure that: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; and (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project.

(4) The Commission reserves the right to require the Licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

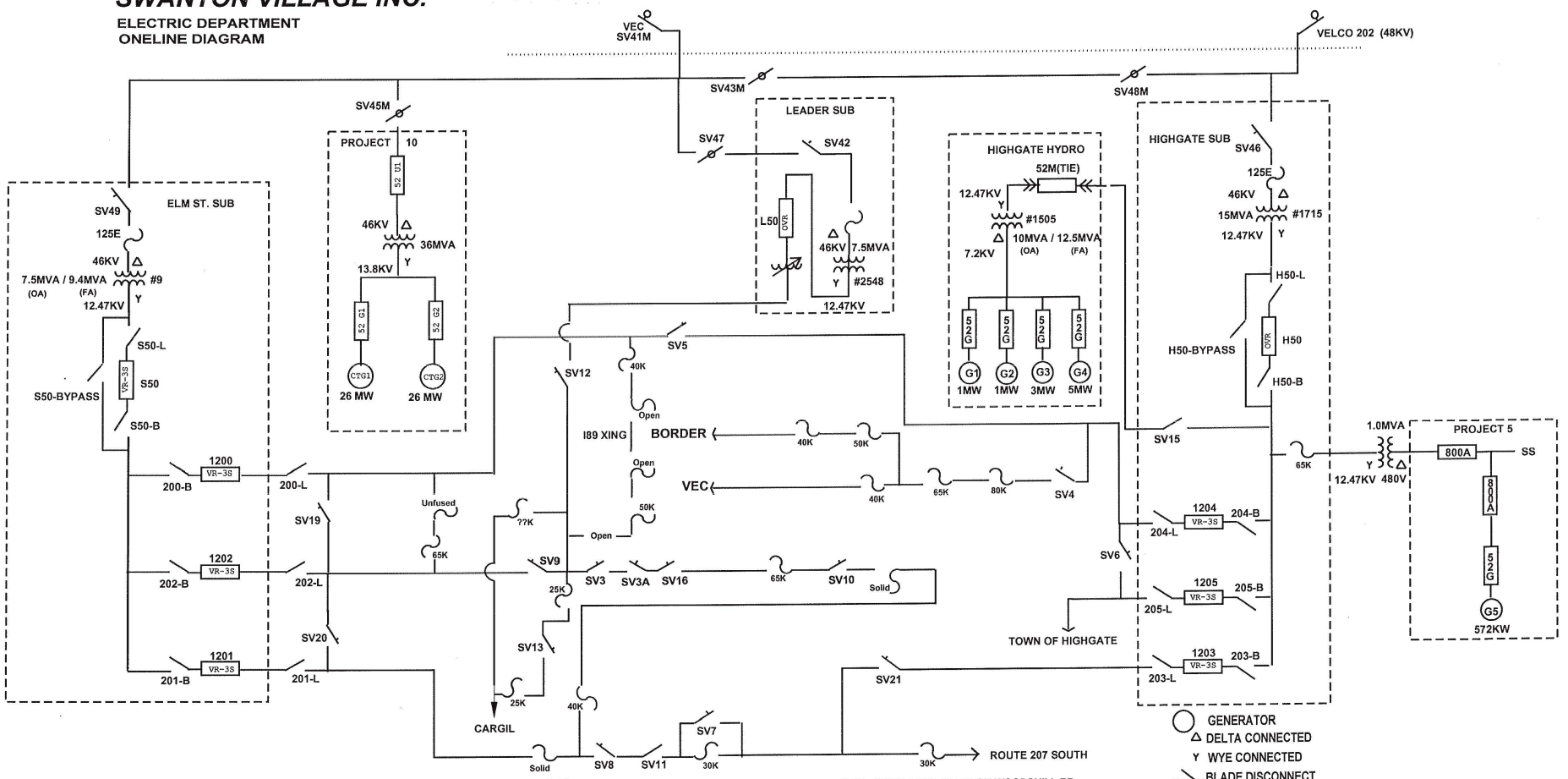
(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised Exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised Exhibit G or K drawings would be filed for approval for other purposes.

(E) The Licensee's failure to file a petition appealing this order to the Comission shall constitute acceptance of this license. In acknowledgment of acceptance of this order and its terms and conditions, it shall be signed by the Licensee and returned to the Commission within 60 days from the date this order is issued.

Lawrence R. Anderson
Director, Office of Electric
Power Regulation

SWANTON VILLAGE INC.

ELECTRIC DEPARTMENT
ONELINE DIAGRAM



LEGEND:

TRANSMISSION

SV41M RT. 78 & WAUGH FARM RD. (VEC TIE, Non Load Break)
SV42 LEADER SUB (Non Load Break)
SV43M RT. 78 EAST (SWANTON, Load Break)
SV45M Lafar St. (PROJECT 10, Load Break)
SV46 HIGHGATE UPPER SUB (Non Load Break)
SV47 FRONTAGE ROAD (Load Break)
SV48M RT. 78 EAST (HIGHGATE, Load Break)
SV49 ELM ST. SUB (Non Load Break)

DISTRIBUTION

SV3 BROWNS FOUNDRY
SV3A BROWNS FOUNDRY
SV4 CARTER HILL RD.
SV5 RT. 78 & AIRPORT RD.
SV6 RT. 78, VELCO SUB
SV7 WOODS HILL ROAD
SV8 WOODS HILL RD. & RT. 7
SV9 BROOKLYN ST., 78 WEST
SV10 BETWEEN MISSLE BASE RD. & LAKE RD. ON MIDDLE RD.
200-L 2 POLES WEST OF SV19 ON FIRST ST.

SV11 RISER POLE AT I-89 ON WOODSHILL RD.
SV12 LEADER SUB
SV13 ROUTE 78 WEST NEAR BABBIE BLVD.
SV15 HIGHGATE UPPER SUB, NEW FRAME (SOUTH)
SV16 LAKE ROAD AT FOUNDRY
201-L OUTSIDE SOUTH FENCE OF ELM ST. SUB ON SHORT ST.
202-L 1 POLE NORTH OF SV20 ON ELM ST.
SV19 INTERSECTION OF ELM ST. & FIRST ST.
SV20 ROAD SIDE BY ELM ST. SUB
SV21 INTERSECTION 207 & WOODSHILL ON 207 N.

GENERATOR
DELTA CONNECTED
Y WYE CONNECTED
BLADE DISCONNECT
GANG DISCONNECT
FUSE DISCONNECT
CIRCUIT BREAKER
TRANSFORMER
MOTOR OP. DISCONNECT
VOLTAGE REGULATOR
(OA) OPEN AIR ; (FA) FORCED AIR

DRAWN BY: A. MOSHER
MARCH 29, 2012

STATE OF MAINE
PUBLIC UTILITIES COMMISSION

Docket No. 2012-00240

September 10, 2012

VERMONT PUBLIC POWER SUPPLY AUTHORITY. ON BEHALF OF SWANTON VILLAGE ELECTRIC DEPARTMENT
Request for Certification for RPS Eligibility

ORDER GRANTING NEW RENEWABLE RESOURCE CERTIFICATION

WELCH, Chairman; LITTELL and VANNOY, Commissioners

I. SUMMARY

Swanton Village Electric Department's ("Swanton Village") new 800 kW hydro-electric generation unit ("Highgate Falls Unit #5") located on the Missisquoi River in the town of Highgate, Franklin County, Vermont is certified as a Class I new renewable resource that is eligible to satisfy Maine's new renewable resource portfolio requirement pursuant to Chapter 311, § 3(B)(3)(b) of the Commission rules.

II. BACKGROUND

A. New Renewable Resource Portfolio Requirement

During its 2007 session, the Legislature enacted an Act To Stimulate Demand for Renewable Energy (Act). P.L. 2007, ch. 403 (codified at 35-A M.R.S.A. § 3210(3-A)). The Act added a mandate that specified percentages of electricity that supply Maine's consumers come from "new" renewable resources.[1] Generally, new renewable resources are renewable facilities that have an in-service date, resumed operation or were refurbished after September 1, 2005. The percentage requirement starts at one percent in 2008 and increases in annual one percent increments to ten percent in 2017, unless the Commission suspends the requirement pursuant to the provisions of the Act.

As required by the Act, the Commission modified its portfolio requirement rule (Chapter 311) to implement the "new" renewable resource requirement. *Order*

---

[1] Maine's electric restructuring law, which became effective in March 2000, contained a portfolio requirement that mandated that at least 30% of the electricity to supply retail customers in the State come from eligible resources, which are either renewable or efficient resources. 35-A M.R.S.A. § 3210(3). The Act did not modify this 30% requirement.

Adopting Rule and Statement of Factual and Policy Basis, Docket No. 2007-391 (Oct. 22, 2007). The implementing rules designated the "new" renewable resource requirement as "Class I"[2] and incorporated the resource type, capacity limit and the vintage requirements as specified in the Act. The rules thus state that a new renewable resource used to satisfy the Class I portfolio requirement must be of the following types:

- fuel cells;
- tidal power;
- solar arrays and installations;
- wind power installations;
- geothermal installations;
- hydroelectric generators that meet all state and federal fish
- passage requirement; or
- biomass generators, including generators fueled by landfill gas.

In addition, except for wind power installations, the generating resource must not have a nameplate capacity that exceeds 100 MW. Finally, the resource must satisfy one of four vintage requirements. These are:

1) renewable capacity with an in-service date after September 1, 2005;

2) renewable capacity that has been added to an existing facility after September 1, 2005;

3) renewable capacity that has not operated for two years or was not recognized as a capacity resource by the ISO-NE or the NMISA and has resumed operation or has been recognized by the ISO-NE or NMISA after September 1, 2005; or

4) renewable capacity that has been refurbished after September 1, 2005 and is operating beyond its useful life or employing an alternate technology that significantly increases the efficiency of the generation process.

The implementing rules (Chapter 311, § 3(B)(4)) establish a certification process that requires generators to pre-certify facilities as a new renewable resource under the requirements of the rule and provides for a Commission determination of resource eligibility on a case-by-case basis.[3] The rule contains the information that

---

[2] The "new" renewable resource requirement was designated as Class I because the requirement is similar to portfolio requirements in other New England states that are referred to as "Class I." Maine's pre-existing "eligible" resource portfolio requirement is designated as Class II.

[3] In the *Order Adopting Rule* at 6, the Commission noted that a request for certification can be made at any time so that a ruling can be obtained before a capital investment is made in a generation facility.

must be included in a petition for certification and specifies that the Commission shall provide an opportunity for public comment if a petitioner seeks certification under vintage categories 2, 3 and 4. Finally, the rule specifies that the Commission may revoke a certification if there is a material change in circumstance that renders the generation facility ineligible as a new renewable resource.

B. Petition for Certification

On May 24, 2012, Vermont Public Power Supply Authority ("VPPSA") filed a petition on behalf of Swanton Village to certify its new 800 kW Highgate Falls Unit #5 ("Facility") as a Class I New Renewable Resource under Chapter 311, § 3(B)(3)(b) of the Commission rules (added capacity vintage category). The Facility is located in the spillway of the existing Highgate Falls hydroelectric generating station on the Missisquoi River in the town of Highgate, county of Franklin, Vermont. The petition states the Facility began operations on March 13, 2012. According to the petition, while the output of the Facility is separately metered from the pre-existing Highgate Falls generating station, the Facility is a load reducer (i.e., "behind-the-meter"). The petitioner, VPPSA, proposes to be the registered third party meter reader on behalf of the owner of the Facility, Swanton Village.

An opportunity for comment was issued on June 19, 2012. No comments were received. The Commission Staff issued follow-up questions on July 20, 2012 seeking clarification on the total nameplate capacity of the entire Highgate Falls generating station and requesting documentation and explanation on how the Facility meets fish passage requirements. VPPSA filed its response on August 16, 2012.

III. DECISION

The Commission has delegated to the Director of the Electric and Gas Division the authority to certify generation facilities as Class I new renewable resources pursuant to Chapter 311, § 3(B) of the Commission rules. *Delegation Order,* Docket No. 2008-184 (April 23, 2008). Based on the information provided by VPPSA on behalf of Swanton Village, I conclude that the Facility satisfies the resource type, capacity limit and vintage requirements of the rule. The Facility is a hydroelectric generator that meets all fish passage requirements, the total Highgate Falls generating station capacity does not exceed 100 MW, and the Facility commenced commercial operations after September 1, 2005. While the electricity from the Facility is behind-the-meter, the Commission has found that self-delivery of electricity can qualify for Maine Class I certification if it is located in the ISO-NE control area (see *Order (Part I) Granting New Renewable Resource Certification*, Docket No. 2012-87 (April 10, 2012)).

Accordingly, the Facility is hereby certified as a Class I New Renewable Resource eligible to satisfy Maine's New Renewable Resource portfolio requirement pursuant to Chapter 311, § 3(B)(3)(b) of the Commission rules.

As we have required in other certifications regarding behind-the-meter facilities, the Facility must be in compliance with GIS NEPOOL Rules. VPPSA may be the 3rd party meter reader as long as they are in accordance with these Rules.

Finally, Swanton Village, or the Facility's successive owner, shall provide timely notice to the Commission of any material change in the operation of the facility, including the type of fuel used in the generation process, from that described in the petition filed in this proceeding.

BY ORDER OF THE DIRECTOR OF THE ELECTRIC AND GAS
UTILITY INDUSTRIES

Faith Huntington

Faith Huntington

NOTICE OF RIGHTS TO REVIEW OR APPEAL

5 M.R.S.A. § 9061 requires the Public Utilities Commission to give each party to an adjudicatory proceeding written notice of the party's rights to review or appeal of its decision made at the conclusion of the adjudicatory proceeding. The methods of review or appeal of PUC decisions at the conclusion of an adjudicatory proceeding are as follows:

1. Reconsideration of the Commission's Order may be requested under Section 1004 of the Commission's Rules of Practice and Procedure (65-407 C.M.R.110) within **20** days of the date of the Order by filing a petition with the Commission stating the grounds upon which reconsideration is sought. Any petition not granted within 20 days from the date of filing is denied.

2. Appeal of a final decision of the Commission may be taken to the Law Court by filing, within **21** days of the date of the Order, a Notice of Appeal with the Administrative Director of the Commission, pursuant to 35-A M.R.S.A. § 1320(1)-(4) and the Maine Rules of Appellate Procedure.

3. Additional court review of constitutional issues or issues involving the justness or reasonableness of rates may be had by the filing of an appeal with the Law Court, pursuant to 35-A M.R.S.A. § 1320(5).

Note: The attachment of this Notice to a document does not indicate the Commission's view that the particular document may be subject to review or appeal. Similarly, the failure of the Commission to attach a copy of this Notice to a document does not indicate the Commission's view that the document is not subject to review or appeal.

Swanton Village, Vermont

Incorporated in 1888

PO Box 279 • 120 First Street, Swanton, Vermont 05488

Website: www.swanton.net

(802) 868-3397 • Fax: 868-3930

State of Vermont
County of Franklin

Affidavit of Reginald Beliveau, Jr., General Manager of the Swanton Village Electric Department

Reginald Beliveau, Jr., being duly sworn, deposes and states that:

1. I am a duly authorized representative of the Swanton Village Electric Department.

2. The contents of the application to consider Highgate Falls Unit #5 for qualification as a class I resource under the New Hampshire Renewable Portfolio Standard are true and correct to the best of my knowledge and belief.

Subscribed and sworn before me on

10-1-2017
Date

Notary Public for the State of Vermont