

State of Vermont**Department of Public Service**

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August 7, 2014

Susan M. Hudson, Clerk
Public Service Board
112 State Street
Drawer 20
Montpelier, VT 05602

Re: Docket No. 8010 – Avoided Cost Rate Filing Pursuant to Rule 4.104(E)

Dear Mrs. Hudson:

As indicated in the August 4, 2014, Department of Public Service's (Department) Comments on the Proposal for Decision (PFD) in this Docket, the Department is hereby filing proposed avoided cost rate schedules pursuant to Public Service Board (Board) Rule 4.104(E). Given the number of qualifying facilities (QF) that have expressed interest in participating in the Board's Rule 4.100 program, the Department respectfully requests that the Board move swiftly to approve these rates, consistent with the procedural framework set forth below.

In developing the attached rate schedules, the Department retained the services of La Capra Associates (La Capra), who developed the Vermont base rates using its Reference Case Regional Market Price Outlook zonal model, which it maintains and updates for ISO-NE zones, including the Vermont zone, for energy market clearing prices and capacity prices. The Department worked with La Capra in developing Vermont-specific avoided costs for energy and capacity, reviewed the approach and the key inputs and assumptions used in developing the reference case base rates, and after modification to include line loss credits and adjustments to remove the impact of unknown EPA regulations, the Department recommends that the Board approve the attached rate schedules.

Attachment A sets forth proposed levelized long-term firm and non-firm peak and off-peak energy rates, in \$/kWh, for each month. These levelized rates are provided for contract terms starting at five years and increasing in five-year increments to thirty years. In addition to energy rates, capacity rates, in \$/kW-month, are also provided for firm generation only. Attachment B sets forth non-levelized peak and off-peak energy rates by month and year through 2044. Capacity rates are also included for firm generation.

La Capra's approach to developing its reference case energy market outlook is to use an established energy market model¹ and reasonable public sources of information to establish the

¹ The primary modeling tool used is the AURORAxmp market model commercially leased by La Capra from EPIS, Inc. This model contains the generation unit and electric demand characteristics used to develop the energy price outlook over the study periods for each hour of the year. The model is characterized as a zonal model as it



regional energy demand, regional generation resources including retirements and additions and fuel prices such as natural gas from a combination of the futures market and the projections made by the US Energy Information Administration's (EIA) Annual Energy Outlook (AEO). Its approach to developing a capacity price forecast or outlook is to monitor the results of Forward Capacity Auctions (FCA) conducted as part of ISO-NE's Forward Capacity Market (FCM), study the FCM rules as they evolve under ISO-NE, regulated by FERC, and analyze the future capacity supply and demand balance in order to develop a price outlook as it compares to the Cost of New Entry (CONE), an benchmark as part of the FCM.

These regional and zonal outlooks for energy and capacity prices are used in many different applications as a representative future scenario of market prices in ISO-NE and are the starting point for the development of Vermont's avoided cost rate schedules.

The following information provides a summary of the information that La Capra relied upon in conducting its analysis.

- A primary source of information was the 2014 Capacity, Energy, Loads and Transmission Report ("CELT") developed by ISO-NE including;
 - Forecast of Energy Requirements and Peak Demand for New England zones
 - Current generation capacity that is available for bidding into the ISO-NE energy markets; Unit Rating (MW), location and fuel type
 - State forecasts of energy efficiency impact on energy and peak demand
 - Potential generation additions under development within New England, including renewable energy projects
 - Transmission line projects under development and proposed
 - Potential generation unit retirements
- The company that La Capra leases the market model from, EPIS, provides detailed generation operating characteristics and load data for North America as part of the AURORAxmp market model including;
 - Unit capacity ratings, heat rates, part load performance, location, primary fuel used, secondary fuel used etc.
 - Regional energy hourly load shapes
 - Sample hourly load shapes for energy efficiency resources.
 - Default regional fuel price forecasts
 - Monthly variations in fuel prices relative to an annual average
- The price forecast includes an assumption that actions are taken to address constraints associated with pipeline capacity.
- A key assumption for determining prices for energy within the ISO-NE market is the price of natural gas that generation facilities will be charged. La Capra utilized the 2014

determines market clearing prices for each zone modeled. La Capra Associates uses this model in a configuration that represents the energy market zones established by ISO-NE, including Vermont.

AEO natural gas price forecast published by EIA. La Capra's experience with EIA natural gas price forecasts for New England is that these prices can have large differences compared to the trading prices realized for natural gas over the early years of its forecast period. Accordingly, La Capra utilized the forward prices for natural gas as traded in real markets in the first two years and then gradually trend the prices to the AEO forecast prices. La Capra recognizes the high degree of uncertainty as to the price of natural gas in New England as compared to other regions or specific market benchmarks such as Henry Hub (i.e., price 'basis'). La Capra assumed that the extremely high basis that New England has experienced in recent winter months will decline with the addition of natural gas pipeline additions to serve New England; however La Capra's outlook continues to assume a higher basis for the winter months as compared with other months of the year even with the additional pipeline capacity.

- Other existing policy considerations and assumptions include;
 - Assumption that all New England States maintain their current levels and timetables for Renewable Energy Portfolio Standards (RPS) and that enough renewable capacity is developed within New England or imported into New England to meet these requirements.
 - The Regional Greenhouse Gas Initiative (RGGI) continues at increasing levels of carbon dioxide emission costs, \$8/ton in 2012 in 2019 and continuing at constant real prices thereafter.
 - For this analysis, it was assumed there would be no EPA carbon regulation (reference case assumed there could be a pricing impact)
 - The base rates as provided from the model with the above inputs and assumptions were modified by PSD to include line loss credits that were not considered in the model.

The Department submits that the rate schedules attached to this letter reflect a just and reasonable, market-based approach to setting the "avoided capacity and energy costs of the Vermont composite electric utility system" and are consistent with the requirements of Rule 4.104(E), PURPA, and state law. The Department therefore believes that the Board should approve these rates as soon as possible, after a reasonable time period for comments from interested parties and a hearing as provided by Rule 4.104(E).

While the Department stands ready to respond to reasonable requests for additional information about the attached rates, the Department does not believe that a full evidentiary hearing is either necessary or appropriate for the purpose of establishing just and reasonable avoided cost rates. In the Department's view, the Board should allow parties the opportunity to comment on the Department's filing and to provide alternative avoided cost rates for the Board's and the parties' consideration. As the Department has stated repeatedly in this proceeding, it is concerned about returning to the highly contentious annual rate filings that were abandoned long ago. The Department therefore urges the Board to be mindful of this history and to exercise its discretion to implement procedures that are appropriately tailored to achieving a just, reasonable, and timely result. Important considerations include the need for swift approval of avoided cost rates (thereby minimizing the need to deal with individual QF requests for avoided

cost rate contracts on a case-by-case basis), the absence of any party that bears a burden of proof in this proceeding, and the need to provide all parties with the opportunity to comment on, and provide alternatives to, the attached avoided cost rates.

As the Department recommended in its August 4 Comments on the PFD, the Board should provide notice of this filing broadly to relevant stakeholders. The Department is serving a copy of this filing on the parties to this docket, as well as to the Vermont electric utilities, and other interested persons. The Department requests that the Board allow for a one-month period for parties to file comments on or alternatives to the attached rate schedules and then hold a hearing at which parties can discuss these comments/alternatives and answer any questions. The comments and the results of the hearing could provide sufficient basis for the Board to make its determination. The Department notes that neither 30 V.S.A. § 209(a)(8) nor Rule 4.100 require contested case proceedings to establish avoided cost rates. The Department fully supports the notion that all interested parties must have the opportunity to be heard; however, due process does not require fully litigated proceedings in this instance. Based upon past experience, it is unclear that fully litigated cases proved to be an efficient process for any of the participants involved. Additionally, the Department submits that the advent of wholesale energy and capacity markets narrows the scope of this proceeding as compared to prior avoided cost determinations, under both the 4.100 and standard-offer programs.

Please let me know if I can be of any further assistance.

Sincerely,



Timothy M. Duggan
Special Counsel

cc: Attached Service List

Vermont Public Service Department**Vermont Avoided Cost Rates for Levelized Long-term Firm and Non-Firm Sales Options**

Discount Rate: 6.67%					
Line Loss Credit: 0.45%		LEVELIZED			
		Peak	Off-Peak	Capacity	
<u>Sales Option</u>	<u>Contract Term</u>	<u>Levelized Month</u>	<u>\$/kWh</u>	<u>\$/kwh</u>	<u>\$/kW</u> Applicable to firm generation only
Long-Term non-firm					
Five Year Contract Levelized					
		January	\$0.105	\$0.077	na
		February	\$0.099	\$0.075	na
		March	\$0.068	\$0.050	na
		April	\$0.050	\$0.037	na
		May	\$0.049	\$0.035	na
		June	\$0.058	\$0.042	na
		July	\$0.073	\$0.046	na
		August	\$0.061	\$0.042	na
		September	\$0.050	\$0.037	na
		October	\$0.049	\$0.037	na
		November	\$0.059	\$0.045	na
		December	\$0.083	\$0.061	na
Long-Term Firm and Non-Firm					
Ten Year Contract Levelized					
		January	\$0.093	\$0.068	\$8.323
		February	\$0.088	\$0.067	\$8.323
		March	\$0.065	\$0.049	\$8.323
		April	\$0.053	\$0.039	\$8.323
		May	\$0.054	\$0.038	\$8.323
		June	\$0.062	\$0.044	\$9.517
		July	\$0.078	\$0.049	\$9.517
		August	\$0.065	\$0.045	\$9.517
		September	\$0.053	\$0.039	\$9.517
		October	\$0.052	\$0.039	\$9.517
		November	\$0.059	\$0.045	\$9.517
		December	\$0.076	\$0.056	\$9.517
Long-Term Non-Firm					
Fifteen Year Contract Levelized					
		January	\$0.098	\$0.072	na
		February	\$0.093	\$0.070	na
		March	\$0.069	\$0.052	na
		April	\$0.056	\$0.042	na
		May	\$0.057	\$0.041	na
		June	\$0.067	\$0.048	na
		July	\$0.084	\$0.052	na
		August	\$0.069	\$0.048	na
		September	\$0.057	\$0.042	na
		October	\$0.055	\$0.042	na
		November	\$0.062	\$0.048	na
		December	\$0.080	\$0.059	na

Vermont Public Service Department**Vermont Avoided Cost Rates for Levelized Long-term Firm and Non-Firm Sales Options**

Discount Rate: 6.67%
 Line Loss Credit: 0.45%

<u>Sales Option</u>	<u>Contract Term</u>	<u>Levelized Month</u>	LEVELIZED		
			<u>Peak</u>	<u>Off-Peak</u>	<u>Capacity</u>
			<u>\$/kWh</u>	<u>\$/kwh</u>	<u>\$/kW</u>

Applicable to firm
generation only

Long-Term Firm**Twenty Year Contract Levelized**

January	\$0.101	\$0.075	\$10.430
February	\$0.097	\$0.073	\$10.430
March	\$0.073	\$0.055	\$10.430
April	\$0.060	\$0.045	\$10.430
May	\$0.061	\$0.044	\$10.430
June	\$0.071	\$0.051	\$11.310
July	\$0.090	\$0.056	\$11.310
August	\$0.073	\$0.051	\$11.310
September	\$0.061	\$0.045	\$11.310
October	\$0.059	\$0.044	\$11.310
November	\$0.066	\$0.051	\$11.310
December	\$0.084	\$0.062	\$11.310

Thirty Year Contract Levelized

January	\$0.108	\$0.081	\$11.485
February	\$0.104	\$0.078	\$11.485
March	\$0.080	\$0.060	\$11.485
April	\$0.067	\$0.050	\$11.485
May	\$0.069	\$0.050	\$11.485
June	\$0.080	\$0.058	\$12.278
July	\$0.099	\$0.063	\$12.278
August	\$0.081	\$0.058	\$12.278
September	\$0.068	\$0.051	\$12.278
October	\$0.066	\$0.050	\$12.278
November	\$0.073	\$0.057	\$12.278
December	\$0.091	\$0.068	\$12.278

Vermont Public Service Department
Vermont Avoided Cost Rates for Non-Levelized Short-Term and Long-term Firm and Non-Firm Sales Options

		Line Loss Credit:	0.45%											
		NON-LEVELIZED	1	2	3	4	5	6	7	8	9	10	11	12
Year			January	February	March	April	May	June	July	August	September	October	November	December
2015	Peak	<u>\$/kWh</u>	\$ 0.1579	\$ 0.1486	\$ 0.0865	\$ 0.0501	\$ 0.0431	\$ 0.0538	\$ 0.0672	\$ 0.0570	\$ 0.0482	\$ 0.0482	\$ 0.0728	\$ 0.1175
	Off-Peak	<u>\$/kwh</u>	\$ 0.1112	\$ 0.1120	\$ 0.0633	\$ 0.0366	\$ 0.0312	\$ 0.0388	\$ 0.0433	\$ 0.0411	\$ 0.0355	\$ 0.0371	\$ 0.0542	\$ 0.0829
	Capacity	<u>\$/kW</u>	\$ 2.4300	\$ 2.4300	\$ 2.4300	\$ 2.4300	\$ 2.4300	\$ 2.4300	\$ 3.4300	\$ 3.4300	\$ 3.4300	\$ 3.4300	\$ 3.4300	\$ 3.4300
		firm generation only												
2016	Peak	<u>\$/kWh</u>	\$ 0.1273	\$ 0.1175	\$ 0.0761	\$ 0.0502	\$ 0.0489	\$ 0.0580	\$ 0.0702	\$ 0.0566	\$ 0.0469	\$ 0.0463	\$ 0.0625	\$ 0.0962
	Off-Peak	<u>\$/kwh</u>	\$ 0.0955	\$ 0.0903	\$ 0.0547	\$ 0.0368	\$ 0.0344	\$ 0.0416	\$ 0.0453	\$ 0.0403	\$ 0.0347	\$ 0.0346	\$ 0.0466	\$ 0.0710
	Capacity	<u>\$/kW</u>	\$ 3.4300	\$ 3.4300	\$ 3.4300	\$ 3.4300	\$ 3.4300	\$ 3.1500	\$ 3.1500	\$ 3.1500	\$ 3.1500	\$ 3.1500	\$ 3.1500	\$ 3.1500
		firm generation only												
2017	Peak	<u>\$/kWh</u>	\$ 0.0937	\$ 0.0874	\$ 0.0638	\$ 0.0504	\$ 0.0513	\$ 0.0607	\$ 0.0794	\$ 0.0608	\$ 0.0488	\$ 0.0475	\$ 0.0566	\$ 0.0754
	Off-Peak	<u>\$/kwh</u>	\$ 0.0700	\$ 0.0674	\$ 0.0477	\$ 0.0387	\$ 0.0372	\$ 0.0426	\$ 0.0470	\$ 0.0419	\$ 0.0364	\$ 0.0355	\$ 0.0426	\$ 0.0576
	Capacity	<u>\$/kW</u>	\$ 3.1500	\$ 3.1500	\$ 3.1500	\$ 3.1500	\$ 3.1500	\$ 7.0200	\$ 7.0200	\$ 7.0200	\$ 7.0200	\$ 7.0200	\$ 7.0200	\$ 7.0200
		firm generation only												
2018	Peak	<u>\$/kWh</u>	\$ 0.0649	\$ 0.0616	\$ 0.0542	\$ 0.0498	\$ 0.0525	\$ 0.0582	\$ 0.0772	\$ 0.0690	\$ 0.0522	\$ 0.0511	\$ 0.0502	\$ 0.0571
	Off-Peak	<u>\$/kwh</u>	\$ 0.0472	\$ 0.0463	\$ 0.0407	\$ 0.0369	\$ 0.0370	\$ 0.0421	\$ 0.0459	\$ 0.0432	\$ 0.0389	\$ 0.0382	\$ 0.0389	\$ 0.0431
	Capacity	<u>\$/kW</u>	\$ 7.0200	\$ 7.0200	\$ 7.0200	\$ 7.0200	\$ 7.0200	\$ 11.8600	\$ 11.8600	\$ 11.8600	\$ 11.8600	\$ 11.8600	\$ 11.8600	\$ 11.8600
		firm generation only												
2019	Peak	<u>\$/kWh</u>	\$ 0.0645	\$ 0.0638	\$ 0.0539	\$ 0.0502	\$ 0.0522	\$ 0.0602	\$ 0.0738	\$ 0.0650	\$ 0.0532	\$ 0.0507	\$ 0.0510	\$ 0.0572
	Off-Peak	<u>\$/kwh</u>	\$ 0.0472	\$ 0.0477	\$ 0.0413	\$ 0.0359	\$ 0.0347	\$ 0.0431	\$ 0.0468	\$ 0.0444	\$ 0.0391	\$ 0.0378	\$ 0.0399	\$ 0.0429
	Capacity	<u>\$/kW</u>	\$ 11.8600	\$ 11.8600	\$ 11.8600	\$ 11.8600	\$ 11.8600	\$ 12.0400	\$ 12.0400	\$ 12.0400	\$ 12.0400	\$ 12.0400	\$ 12.0400	\$ 12.0400
		firm generation only												
2020	Peak	<u>\$/kWh</u>	\$ 0.0682	\$ 0.0665	\$ 0.0565	\$ 0.0538	\$ 0.0561	\$ 0.0628	\$ 0.0816	\$ 0.0665	\$ 0.0548	\$ 0.0525	\$ 0.0537	\$ 0.0597
	Off-Peak	<u>\$/kwh</u>	\$ 0.0495	\$ 0.0493	\$ 0.0432	\$ 0.0404	\$ 0.0396	\$ 0.0455	\$ 0.0491	\$ 0.0463	\$ 0.0405	\$ 0.0389	\$ 0.0414	\$ 0.0450
	Capacity	<u>\$/kW</u>	\$ 12.0400	\$ 12.0400	\$ 12.0400	\$ 12.0400	\$ 12.0400	\$ 12.2800	\$ 12.2800	\$ 12.2800	\$ 12.2800	\$ 12.2800	\$ 12.2800	\$ 12.2800
		firm generation only												
2021	Peak	<u>\$/kWh</u>	\$ 0.0745	\$ 0.0718	\$ 0.0595	\$ 0.0545	\$ 0.0579	\$ 0.0661	\$ 0.0850	\$ 0.0679	\$ 0.0571	\$ 0.0557	\$ 0.0570	\$ 0.0639
	Off-Peak	<u>\$/kwh</u>	\$ 0.0549	\$ 0.0533	\$ 0.0443	\$ 0.0399	\$ 0.0410	\$ 0.0471	\$ 0.0510	\$ 0.0469	\$ 0.0418	\$ 0.0419	\$ 0.0442	\$ 0.0481
	Capacity	<u>\$/kW</u>	\$ 12.2800	\$ 12.2800	\$ 12.2800	\$ 12.2800	\$ 12.2800	\$ 12.5300	\$ 12.5300	\$ 12.5300	\$ 12.5300	\$ 12.5300	\$ 12.5300	\$ 12.5300
		firm generation only												
2022	Peak	<u>\$/kWh</u>	\$ 0.0765	\$ 0.0732	\$ 0.0609	\$ 0.0557	\$ 0.0585	\$ 0.0678	\$ 0.0839	\$ 0.0688	\$ 0.0579	\$ 0.0565	\$ 0.0590	\$ 0.0658
	Off-Peak	<u>\$/kwh</u>	\$ 0.0562	\$ 0.0545	\$ 0.0457	\$ 0.0396	\$ 0.0392	\$ 0.0480	\$ 0.0531	\$ 0.0481	\$ 0.0430	\$ 0.0424	\$ 0.0454	\$ 0.0494
	Capacity	<u>\$/kW</u>	\$ 12.5300	\$ 12.5300	\$ 12.5300	\$ 12.5300	\$ 12.5300	\$ 12.7900	\$ 12.7900	\$ 12.7900	\$ 12.7900	\$ 12.7900	\$ 12.7900	\$ 12.7900
		firm generation only												
2023	Peak	<u>\$/kWh</u>	\$ 0.0801	\$ 0.0761	\$ 0.0639	\$ 0.0594	\$ 0.0633	\$ 0.0710	\$ 0.0874	\$ 0.0709	\$ 0.0600	\$ 0.0577	\$ 0.0601	\$ 0.0691
	Off-Peak	<u>\$/kwh</u>	\$ 0.0585	\$ 0.0571	\$ 0.0482	\$ 0.0453	\$ 0.0449	\$ 0.0506	\$ 0.0550	\$ 0.0499	\$ 0.0448	\$ 0.0432	\$ 0.0467	\$ 0.0517
	Capacity	<u>\$/kW</u>	\$ 12.7900	\$ 12.7900	\$ 12.7900	\$ 12.7900	\$ 12.7900	\$ 13.0600	\$ 13.0600	\$ 13.0600	\$ 13.0600	\$ 13.0600	\$ 13.0600	\$ 13.0600
		firm generation only												

Vermont Public Service Department
Vermont Avoided Cost Rates for Non-Levelized Short-Term and Long-term Firm and Non-Firm Sales Options

		Line Loss Credit:	0.45%												
		NON-LEVELIZED	January	1 February	2 March	3 April	4 May	5 June	6 July	7 August	8 September	9 October	10 November	11 December	12
Year															
2024	Peak	<u>\$/kWh</u>	\$ 0.0865	\$ 0.0833	\$ 0.0681	\$ 0.0607	\$ 0.0645	\$ 0.0726	\$ 0.0912	\$ 0.0766	\$ 0.0640	\$ 0.0623	\$ 0.0637	\$ 0.0750	
	Off-Peak	<u>\$/kwh</u>	\$ 0.0635	\$ 0.0618	\$ 0.0526	\$ 0.0460	\$ 0.0452	\$ 0.0529	\$ 0.0562	\$ 0.0530	\$ 0.0473	\$ 0.0465	\$ 0.0497	\$ 0.0559	
	Capacity	<u>\$/kW</u>	firm generation only	\$ 13.0600	\$ 13.0600	\$ 13.0600	\$ 13.0600	\$ 13.0600	\$ 13.3300	\$ 13.3300	\$ 13.3300	\$ 13.3300	\$ 13.3300	\$ 13.3300	\$ 13.3300
2025	Peak	<u>\$/kWh</u>	\$ 0.0983	\$ 0.0930	\$ 0.0743	\$ 0.0626	\$ 0.0632	\$ 0.0754	\$ 0.0977	\$ 0.0785	\$ 0.0655	\$ 0.0625	\$ 0.0670	\$ 0.0828	
	Off-Peak	<u>\$/kwh</u>	\$ 0.0727	\$ 0.0707	\$ 0.0559	\$ 0.0454	\$ 0.0436	\$ 0.0538	\$ 0.0587	\$ 0.0550	\$ 0.0482	\$ 0.0467	\$ 0.0523	\$ 0.0600	
	Capacity	<u>\$/kW</u>	firm generation only	\$ 13.3300	\$ 13.3300	\$ 13.3300	\$ 13.3300	\$ 13.3300	\$ 13.6100	\$ 13.6100	\$ 13.6100	\$ 13.6100	\$ 13.6100	\$ 13.6100	\$ 13.6100
2026	Peak	<u>\$/kWh</u>	\$ 0.1057	\$ 0.1021	\$ 0.0783	\$ 0.0669	\$ 0.0682	\$ 0.0789	\$ 0.1014	\$ 0.0806	\$ 0.0673	\$ 0.0634	\$ 0.0706	\$ 0.0894	
	Off-Peak	<u>\$/kwh</u>	\$ 0.0797	\$ 0.0765	\$ 0.0589	\$ 0.0512	\$ 0.0507	\$ 0.0567	\$ 0.0608	\$ 0.0571	\$ 0.0498	\$ 0.0477	\$ 0.0547	\$ 0.0656	
	Capacity	<u>\$/kW</u>	firm generation only	\$ 13.6100	\$ 13.6100	\$ 13.6100	\$ 13.6100	\$ 13.6100	\$ 13.8900	\$ 13.8900	\$ 13.8900	\$ 13.8900	\$ 13.8900	\$ 13.8900	\$ 13.8900
2027	Peak	<u>\$/kWh</u>	\$ 0.1124	\$ 0.1066	\$ 0.0819	\$ 0.0685	\$ 0.0706	\$ 0.0819	\$ 0.1062	\$ 0.0828	\$ 0.0700	\$ 0.0677	\$ 0.0739	\$ 0.0934	
	Off-Peak	<u>\$/kwh</u>	\$ 0.0849	\$ 0.0802	\$ 0.0608	\$ 0.0513	\$ 0.0520	\$ 0.0593	\$ 0.0638	\$ 0.0582	\$ 0.0517	\$ 0.0512	\$ 0.0573	\$ 0.0686	
	Capacity	<u>\$/kW</u>	firm generation only	\$ 13.8900	\$ 13.8900	\$ 13.8900	\$ 13.8900	\$ 13.8900	\$ 14.1900	\$ 14.1900	\$ 14.1900	\$ 14.1900	\$ 14.1900	\$ 14.1900	\$ 14.1900
2028	Peak	<u>\$/kWh</u>	\$ 0.1231	\$ 0.1178	\$ 0.0865	\$ 0.0696	\$ 0.0713	\$ 0.0850	\$ 0.1059	\$ 0.0830	\$ 0.0705	\$ 0.0686	\$ 0.0780	\$ 0.1011	
	Off-Peak	<u>\$/kwh</u>	\$ 0.0941	\$ 0.0880	\$ 0.0640	\$ 0.0514	\$ 0.0501	\$ 0.0612	\$ 0.0663	\$ 0.0594	\$ 0.0529	\$ 0.0518	\$ 0.0609	\$ 0.0757	
	Capacity	<u>\$/kW</u>	firm generation only	\$ 14.1900	\$ 14.1900	\$ 14.1900	\$ 14.1900	\$ 14.1900	\$ 14.4900	\$ 14.4900	\$ 14.4900	\$ 14.4900	\$ 14.4900	\$ 14.4900	\$ 14.4900
2029	Peak	<u>\$/kWh</u>	\$ 0.1307	\$ 0.1269	\$ 0.0932	\$ 0.0741	\$ 0.0757	\$ 0.0877	\$ 0.1066	\$ 0.0921	\$ 0.0745	\$ 0.0706	\$ 0.0795	\$ 0.1076	
	Off-Peak	<u>\$/kwh</u>	\$ 0.0996	\$ 0.0950	\$ 0.0711	\$ 0.0580	\$ 0.0551	\$ 0.0637	\$ 0.0686	\$ 0.0638	\$ 0.0560	\$ 0.0528	\$ 0.0625	\$ 0.0805	
	Capacity	<u>\$/kW</u>	firm generation only	\$ 14.4900	\$ 14.4900	\$ 14.4900	\$ 14.4900	\$ 14.4900	\$ 14.7508	\$ 14.7508	\$ 14.7508	\$ 14.7508	\$ 14.7508	\$ 14.7508	\$ 14.7508
2030	Peak	<u>\$/kWh</u>	\$ 0.1382	\$ 0.1323	\$ 0.0982	\$ 0.0774	\$ 0.0784	\$ 0.0923	\$ 0.1122	\$ 0.0942	\$ 0.0781	\$ 0.0761	\$ 0.0853	\$ 0.1129	
	Off-Peak	<u>\$/kwh</u>	\$ 0.1053	\$ 0.0997	\$ 0.0743	\$ 0.0592	\$ 0.0579	\$ 0.0680	\$ 0.0719	\$ 0.0670	\$ 0.0588	\$ 0.0574	\$ 0.0668	\$ 0.0847	
	Capacity	<u>\$/kW</u>	firm generation only	\$ 14.7500	\$ 14.7500	\$ 14.7500	\$ 14.7500	\$ 14.7500	\$ 15.0163	\$ 15.0163	\$ 15.0163	\$ 15.0163	\$ 15.0163	\$ 15.0163	\$ 15.0163
2031	Peak	<u>\$/kWh</u>	\$ 0.1326	\$ 0.1294	\$ 0.0971	\$ 0.0787	\$ 0.0795	\$ 0.0952	\$ 0.1174	\$ 0.0954	\$ 0.0797	\$ 0.0768	\$ 0.0871	\$ 0.1117	
	Off-Peak	<u>\$/kwh</u>	\$ 0.1001	\$ 0.0966	\$ 0.0739	\$ 0.0583	\$ 0.0568	\$ 0.0687	\$ 0.0743	\$ 0.0692	\$ 0.0598	\$ 0.0584	\$ 0.0687	\$ 0.0822	
	Capacity	<u>\$/kW</u>	firm generation only	\$ 15.0163	\$ 15.0163	\$ 15.0163	\$ 15.0163	\$ 15.0163	\$ 15.2866	\$ 15.2866	\$ 15.2866	\$ 15.2866	\$ 15.2866	\$ 15.2866	\$ 15.2866
2032	Peak	<u>\$/kWh</u>	\$ 0.1144	\$ 0.1109	\$ 0.0931	\$ 0.0822	\$ 0.0864	\$ 0.0991	\$ 0.1219	\$ 0.0983	\$ 0.0831	\$ 0.0796	\$ 0.0846	\$ 0.1003	
	Off-Peak	<u>\$/kwh</u>	\$ 0.0865	\$ 0.0828	\$ 0.0705	\$ 0.0634	\$ 0.0641	\$ 0.0726	\$ 0.0778	\$ 0.0714	\$ 0.0629	\$ 0.0609	\$ 0.0676	\$ 0.0753	
	Capacity	<u>\$/kW</u>	firm generation only	\$ 15.2866	\$ 15.2866	\$ 15.2866	\$ 15.2866	\$ 15.2866	\$ 15.5618	\$ 15.5618	\$ 15.5618	\$ 15.5618	\$ 15.5618	\$ 15.5618	\$ 15.5618

Vermont Public Service Department
Vermont Avoided Cost Rates for Non-Levelized Short-Term and Long-term Firm and Non-Firm Sales Options

		Line Loss-Credit:	0.45%											
		NON-LEVELIZED	1	2	3	4	5	6	7	8	9	10	11	12
Year			January	February	March	April	May	June	July	August	September	October	November	December
2033	Peak	<u>\$/kWh</u>	\$ 0.1142	\$ 0.1104	\$ 0.0956	\$ 0.0845	\$ 0.0898	\$ 0.1042	\$ 0.1275	\$ 0.1024	\$ 0.0871	\$ 0.0859	\$ 0.0889	\$ 0.1008
	Off-Peak	<u>\$/kwh</u>	\$ 0.0864	\$ 0.0837	\$ 0.0719	\$ 0.0643	\$ 0.0676	\$ 0.0760	\$ 0.0820	\$ 0.0736	\$ 0.0667	\$ 0.0661	\$ 0.0715	\$ 0.0769
	Capacity	<u>\$/kW</u>	firm generation only	\$ 15.5618	\$ 15.5618	\$ 15.5618	\$ 15.5618	\$ 15.5618	\$ 15.8419	\$ 15.8419	\$ 15.8419	\$ 15.8419	\$ 15.8419	\$ 15.8419
2034	Peak	<u>\$/kWh</u>	\$ 0.1158	\$ 0.1117	\$ 0.0973	\$ 0.0868	\$ 0.0935	\$ 0.1076	\$ 0.1306	\$ 0.1046	\$ 0.0895	\$ 0.0877	\$ 0.0906	\$ 0.1024
	Off-Peak	<u>\$/kwh</u>	\$ 0.0873	\$ 0.0845	\$ 0.0730	\$ 0.0649	\$ 0.0675	\$ 0.0783	\$ 0.0853	\$ 0.0763	\$ 0.0692	\$ 0.0673	\$ 0.0733	\$ 0.0787
	Capacity	<u>\$/kW</u>	firm generation only	\$ 15.8400	\$ 15.8400	\$ 15.8400	\$ 15.8400	\$ 15.8400	\$ 16.1271	\$ 16.1300	\$ 16.1300	\$ 16.1300	\$ 16.1300	\$ 16.1300
2035	Peak	<u>\$/kWh</u>	\$ 0.1185	\$ 0.1145	\$ 0.1015	\$ 0.0922	\$ 0.0978	\$ 0.1096	\$ 0.1300	\$ 0.1140	\$ 0.0943	\$ 0.0914	\$ 0.0930	\$ 0.1055
	Off-Peak	<u>\$/kwh</u>	\$ 0.0887	\$ 0.0871	\$ 0.0786	\$ 0.0739	\$ 0.0732	\$ 0.0821	\$ 0.0869	\$ 0.0814	\$ 0.0730	\$ 0.0697	\$ 0.0746	\$ 0.0813
	Capacity	<u>\$/kW</u>	firm generation only	\$ 16.1300	\$ 16.1300	\$ 16.1300	\$ 16.1300	\$ 16.1300	\$ 16.4173	\$ 16.4173	\$ 16.4173	\$ 16.4173	\$ 16.4173	\$ 16.4173
2036	Peak	<u>\$/kWh</u>	\$ 0.1210	\$ 0.1179	\$ 0.1046	\$ 0.0949	\$ 0.1036	\$ 0.1151	\$ 0.1394	\$ 0.1168	\$ 0.0990	\$ 0.0977	\$ 0.0972	\$ 0.1083
	Off-Peak	<u>\$/kwh</u>	\$ 0.0909	\$ 0.0899	\$ 0.0811	\$ 0.0742	\$ 0.0768	\$ 0.0864	\$ 0.0918	\$ 0.0858	\$ 0.0760	\$ 0.0749	\$ 0.0796	\$ 0.0831
	Capacity	<u>\$/kW</u>	firm generation only	\$ 16.4173	\$ 16.4173	\$ 16.4173	\$ 16.4173	\$ 16.4173	\$ 16.7129	\$ 16.7129	\$ 16.7129	\$ 16.7129	\$ 16.7129	\$ 16.7129
2037	Peak	<u>\$/kWh</u>	\$ 0.1264	\$ 0.1230	\$ 0.1074	\$ 0.0991	\$ 0.1033	\$ 0.1197	\$ 0.1431	\$ 0.1190	\$ 0.1016	\$ 0.0991	\$ 0.0999	\$ 0.1123
	Off-Peak	<u>\$/kwh</u>	\$ 0.0952	\$ 0.0938	\$ 0.0830	\$ 0.0741	\$ 0.0747	\$ 0.0876	\$ 0.0945	\$ 0.0880	\$ 0.0781	\$ 0.0760	\$ 0.0819	\$ 0.0862
	Capacity	<u>\$/kW</u>	firm generation only	\$ 16.7129	\$ 16.7129	\$ 16.7129	\$ 16.7129	\$ 16.7129	\$ 17.0137	\$ 17.0137	\$ 17.0137	\$ 17.0137	\$ 17.0137	\$ 17.0137
2038	Peak	<u>\$/kWh</u>	\$ 0.1325	\$ 0.1292	\$ 0.1124	\$ 0.1025	\$ 0.1085	\$ 0.1222	\$ 0.1432	\$ 0.1205	\$ 0.1032	\$ 0.1016	\$ 0.1035	\$ 0.1179
	Off-Peak	<u>\$/kwh</u>	\$ 0.1003	\$ 0.0975	\$ 0.0868	\$ 0.0801	\$ 0.0822	\$ 0.0905	\$ 0.0972	\$ 0.0888	\$ 0.0798	\$ 0.0774	\$ 0.0839	\$ 0.0902
	Capacity	<u>\$/kW</u>	firm generation only	\$ 17.0137	\$ 17.0137	\$ 17.0137	\$ 17.0137	\$ 17.0137	\$ 17.3199	\$ 17.3199	\$ 17.3199	\$ 17.3199	\$ 17.3199	\$ 17.3199
2039	Peak	<u>\$/kWh</u>	\$ 0.1462	\$ 0.1414	\$ 0.1211	\$ 0.1047	\$ 0.1130	\$ 0.1288	\$ 0.1504	\$ 0.1251	\$ 0.1071	\$ 0.1069	\$ 0.1119	\$ 0.1284
	Off-Peak	<u>\$/kwh</u>	\$ 0.1122	\$ 0.1081	\$ 0.0912	\$ 0.0810	\$ 0.0856	\$ 0.0951	\$ 0.1022	\$ 0.0914	\$ 0.0832	\$ 0.0824	\$ 0.0902	\$ 0.0986
	Capacity	<u>\$/kW</u>	firm generation only	\$ 17.3199	\$ 17.3199	\$ 17.3199	\$ 17.3199	\$ 17.3199	\$ 17.6317	\$ 17.6317	\$ 17.6317	\$ 17.6317	\$ 17.6317	\$ 17.6317
2040	Peak	<u>\$/kWh</u>	\$ 0.1541	\$ 0.1491	\$ 0.1266	\$ 0.1081	\$ 0.1172	\$ 0.1341	\$ 0.1559	\$ 0.1281	\$ 0.1105	\$ 0.1111	\$ 0.1172	\$ 0.1348
	Off-Peak	<u>\$/kwh</u>	\$ 0.1190	\$ 0.1140	\$ 0.0946	\$ 0.0830	\$ 0.0890	\$ 0.0986	\$ 0.1065	\$ 0.0940	\$ 0.0859	\$ 0.0860	\$ 0.0946	\$ 0.1035
	Capacity	<u>\$/kW</u>	firm generation only	\$ 17.6317	\$ 17.6317	\$ 17.6317	\$ 17.6317	\$ 17.6317	\$ 17.9491	\$ 17.9491	\$ 17.9491	\$ 17.9491	\$ 17.9491	\$ 17.9491
2041	Peak	<u>\$/kWh</u>	\$ 0.1624	\$ 0.1572	\$ 0.1323	\$ 0.1116	\$ 0.1215	\$ 0.1396	\$ 0.1617	\$ 0.1311	\$ 0.1141	\$ 0.1155	\$ 0.1228	\$ 0.1416
	Off-Peak	<u>\$/kwh</u>	\$ 0.1262	\$ 0.1203	\$ 0.0981	\$ 0.0849	\$ 0.0926	\$ 0.1023	\$ 0.1109	\$ 0.0968	\$ 0.0887	\$ 0.0896	\$ 0.0992	\$ 0.1086
	Capacity	<u>\$/kW</u>	firm generation only	\$ 17.9491	\$ 17.9491	\$ 17.9491	\$ 17.9491	\$ 17.9491	\$ 18.2721	\$ 18.2721	\$ 18.2721	\$ 18.2721	\$ 18.2721	\$ 18.2721

Vermont Public Service Department
Vermont Avoided Cost Rates for Non-Levelized Short-Term and Long-term Firm and Non-Firm Sales Options

		Line Loss Credit:	0.45%											
		NON-LEVELIZED	1	2	3	4	5	6	7	8	9	10	11	12
Year			January	February	March	April	May	June	July	August	September	October	November	December
2042	Peak	<u>\$/kWh</u>	\$ 0.1711	\$ 0.1657	\$ 0.1382	\$ 0.1152	\$ 0.1260	\$ 0.1453	\$ 0.1676	\$ 0.1342	\$ 0.1178	\$ 0.1201	\$ 0.1286	\$ 0.1487
	Off-Peak	<u>\$/kwh</u>	\$ 0.1338	\$ 0.1270	\$ 0.1018	\$ 0.0869	\$ 0.0963	\$ 0.1062	\$ 0.1155	\$ 0.0996	\$ 0.0917	\$ 0.0935	\$ 0.1040	\$ 0.1139
	Capacity	<u>\$/kW</u> firm generation only	\$ 18.2721	\$ 18.2721	\$ 18.2721	\$ 18.2721	\$ 18.2721	\$ 18.6010	\$ 18.6010	\$ 18.6010	\$ 18.6010	\$ 18.6010	\$ 18.6010	\$ 18.6010
2043	Peak	<u>\$/kWh</u>	\$ 0.1804	\$ 0.1747	\$ 0.1445	\$ 0.1189	\$ 0.1307	\$ 0.1513	\$ 0.1738	\$ 0.1374	\$ 0.1216	\$ 0.1249	\$ 0.1347	\$ 0.1561
	Off-Peak	<u>\$/kwh</u>	\$ 0.1419	\$ 0.1340	\$ 0.1056	\$ 0.0889	\$ 0.1001	\$ 0.1101	\$ 0.1204	\$ 0.1025	\$ 0.0947	\$ 0.0975	\$ 0.1091	\$ 0.1196
	Capacity	<u>\$/kW</u> firm generation only	\$ 18.6010	\$ 18.6010	\$ 18.6010	\$ 18.6010	\$ 18.6010	\$ 18.9359	\$ 18.9359	\$ 18.9359	\$ 18.9359	\$ 18.9359	\$ 18.9359	\$ 18.9359
2044	Peak	<u>\$/kWh</u>	\$ 0.1901	\$ 0.1841	\$ 0.1510	\$ 0.1228	\$ 0.1355	\$ 0.1575	\$ 0.1803	\$ 0.1407	\$ 0.1255	\$ 0.1299	\$ 0.1411	\$ 0.1640
	Off-Peak	<u>\$/kwh</u>	\$ 0.1504	\$ 0.1415	\$ 0.1096	\$ 0.0910	\$ 0.1041	\$ 0.1143	\$ 0.1254	\$ 0.1055	\$ 0.0978	\$ 0.1017	\$ 0.1144	\$ 0.1255
	Capacity	<u>\$/kW</u> firm generation only	\$ 18.9359	\$ 18.9359	\$ 18.9359	\$ 18.9359	\$ 18.9359	\$ 19.2767	\$ 19.2767	\$ 19.2767	\$ 19.2767	\$ 19.2767	\$ 19.2767	\$ 19.2767

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