

STATE OF VERMONT  
PUBLIC SERVICE BOARD

Docket No. 7874

Investigation into the Establishment of Standard-Offer )  
Prices under the Sustainably Priced Energy Enterprise )  
Development ("SPEED") Program )

Order entered: 3/6/2015

**ORDER RE STANDARD-OFFER PRICES FOR EXISTING HYDROELECTRIC PLANTS**

**I. INTRODUCTION**

Pursuant to 30 V.S.A. § 8005a(p)(3)(B), the Public Service Board ("Board") is required to establish the standard-offer price for existing hydroelectric plants at the lesser of \$0.08 per kWh (adjusted annually for inflation) or the sum of five elements identified in the statute. In keeping with Section 8005a(p)(3)(B), in a previous Order, we determined the methodologies that the Board would use to calculate each of the five statutory pricing elements, and established the standard-offer prices based upon those methodologies.<sup>1</sup> The resulting prices were below the statutory maximum of \$0.08 per kWh and applied to standard-offer contracts entered into after February 7, 2013.

Pursuant to Section 8005a(p)(4)(A), starting in 2014, the Board is required to annually recalculate and adjust the energy and capacity elements of the standard-offer prices for application to all standard-offer contracts for existing hydroelectric plants, including contracts that have already been executed. In addition, pursuant to Section 8005a(p)(4)(B)(ii), the Board may annually adjust the other three price elements for inclusion in future executed standard-offer contracts.

In this Order, pursuant to Section 8005a(p)(4)(A), we adjust both the energy and capacity elements of the price for application to all executed standard-offer contracts for existing

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1. Docket 7874, Order of 2/7/13 (the "2013 Order").

hydroelectric plants. In addition, pursuant to Section 8005a(p)(4)(B)(ii), we make no adjustments to the other three price elements: (1) the value of environmental attributes; (2) the values of avoided line losses; and (3) the value of the long-term contracts.

## **II. BACKGROUND AND PROCEDURAL HISTORY**

The Vermont Legislature has mandated the establishment of a standard offer for a limited amount of Sustainably Priced Energy Enterprise Development ("SPEED") resources with a plant capacity of 2.2 MW or less.<sup>2</sup> In particular, Section 8005a(p) mandated the establishment of a standard offer for existing hydroelectric plants with a nameplate capacity of 5 MW or less.

Section 8005a(p)(3) sets out the criteria for establishing prices for existing hydroelectric plants, requiring that a standard-offer contract price be the lesser of the following:

- (A) \$0.08 per kWh, adjusted for inflation annually commencing January 15, 2013, using the CPI;<sup>3</sup> or
- (B) The sum of the following elements:
  - (i) a two-year rolling average of the ISO New England Inc. ("ISO-NE") Vermont zone hourly locational marginal price for energy;
  - (ii) a two-year rolling average of the value of the plant's capacity in the ISO-NE forward capacity market ("FCM");
  - (iii) the value of avoided line losses due to the plant as a fixed increment of the energy and capacity values;
  - (iv) the value of environmental attributes, including renewable energy credits;
  - and
  - (v) the value of a 10- or 20-year contract.

In addition, Section 8005a(p)(4)(A) requires, starting in 2014, that the Board annually "recalculate and adjust the energy and capacity elements of the price" and that the recalculated and adjusted energy and capacity elements shall apply to all executed contracts, "whether or not the contracts were executed prior to the adjustments." With respect to the price elements of avoided line losses, environmental attributes, and the value of a long-term contract, pursuant to Section 8005a(p)(4)(B)(i), these elements "remain fixed at their values at the time a contract is

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2. See 30 V.S.A. §§ 8001, 8005, 8005a.

3. Section 8002(3) defines CPI as the Consumer Price Index for all urban consumers, designated as "CPI-U," in the northeast region, as published by the U.S. Department of Labor, Bureau of Labor Statistics.

signed" for the duration of an executed contract, except that the Board may periodically adjust the value of environmental attributes of an executed contract based upon whether the plant becomes certified by the Low-Impact Hydropower Institute of Portland, Maine ("LIHI")<sup>4</sup> or loses such certification. Pursuant to Section 8005a(p)(4)(B)(ii), the Board annually may adjust "these elements for inclusion in contracts that are executed after the date any such adjustments are made."

Section 8005a(p)(5) further provides that no "existing hydroelectric plant receive a price in one year higher than its price in the previous year, adjusted for inflation using the CPI," except if a hydroelectric plant becomes certified by LIHI. If such certification occurs, the Board "may add to the price any incremental increase in the value of the plant's environmental attributes resulting from such certification."

In the 2013 Order, the Board established the standard-offer price for existing hydroelectric plants which was the sum of five elements identified in the statute, pursuant to Section 8005a(p)(3)(B). The actual price for a plant was based upon the methodologies for calculating each of the statutory pricing elements set out in the 2013 Order.

Pursuant to Section 8005a(p)(4)(A), in an Order issued on February 20, 2014, the Board adjusted the energy and capacity elements of the price for application to all executed contracts for existing hydroelectric plants.<sup>5</sup> In addition, pursuant to Section 8005a(p)(4)(B)(ii), the Board adjusted the environmental attributes element of the price for inclusion in future executed contracts. The price elements for avoided line losses and value of the long-term contract remain unchanged from the 2013 Order.

The 2014 Order required that on or before November 15, 2014, participants in this proceeding must file recommendations with regard to the statutory criteria, pursuant to Section 8005a(p)(3)(B), for adjusting a standard-offer price for existing hydroelectric plants.

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4. LIHI is a non-profit 501(c)(3) organization dedicated to reducing the impacts of hydroelectric generation through the certification of hydroelectric projects that have avoided or reduced their environmental impacts pursuant to LIHI's criteria. In order to be LIHI-certified, a hydroelectric facility must meet criteria in the following eight areas: river flows, water quality, fish passage and protection, watershed protection, threatened and endangered species protection, cultural resource protection, recreation, and facilities recommended for removal.

5. Docket 7874, Order of 2/20/14 ("2014 Order").

No participants filed recommendations on the statutory criteria.

### **III. DISCUSSION**

In the 2013 Order, pursuant to Section 8005a(p)(3)(B), we determined the methodologies for calculating each of the five statutory pricing elements. The five elements are: (1) the two-year rolling average of the ISO-NE Vermont zone hourly locational marginal price ("LMP") for energy; (2) the two-year rolling average of the value of the plant's capacity in the ISO-NE forward capacity market; (3) the value of avoided line losses; (4) the value of environmental attributes; and (5) the value of a 10- or 20-year contract.

Pursuant to the Board's obligation under Section 8005a(p)(4)(A), we determine that the 2015 energy price element for all hydroelectric units will be 5.83 cents per kWh based upon the two-year rolling average of the ISO-NE Vermont zone hourly real-time LMP for calendar years 2013 and 2014.<sup>6</sup> The energy price element is calculated with the same methodology used in our 2013 and 2014 Orders.<sup>7</sup>

In the 2013 Order, we determined that the capacity price element for each hydroelectric unit would be calculated by multiplying the ISO-NE capacity rating by the FCM clearing price for the appropriate period and dividing that revenue value by the kWh the plant generates.<sup>8</sup> The FCM clearing price used to calculate the capacity price element is the payment rate received by generators in the forward capacity auction ("FCA"). In FCAs with excess capacity, this value represents the prorated clearing price, and in FCAs with no excess capacity this value represents the FCM clearing price.<sup>9</sup> Accordingly, the average FCM clearing price to be used in determining

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6. The ISO-NE LMP values referenced in this Order were found at: <http://www.iso-ne.com/isoexpress/web/reports/pricing/-/tree/zone-info>.

7. The 2014 energy price element for all hydroelectric units was set at 4.57 cents per kWh.

8. An existing hydroelectric unit is categorized as either an ISO Settlements Only Generator ("ISO-SOG") or a load reducer. If a unit is an ISO-SOG, then it will have FCM-qualified winter and summer capacity ratings. Load reducers decrease the capacity obligation for a utility by reducing the utility's load requirement at the time of the peak load for the ISO-NE system. The capacity rating for a load-reducer unit will be based on its generation at the time of the ISO-NE peak for the previous two years.

9. The two-year average payment rate for FCA 2012-2013 results and FCA 2013-2014 results was \$2.53 per kW-month.

the 2015 capacity price element is \$2.69 per kW-month based upon the two-year average payment rate for FCA 2013-2014 results and 2014-2015 results.<sup>10</sup>

In the 2013 and 2014 Orders, we determined that for units that serve as load reducers, a 15 percent adder would be made to the capacity revenue value to reflect that the unit is reducing the utility's capacity reserve requirement. Given the absence of comments, we find no reason to change our previous rulings. Accordingly, for this Order, we require that the 15 percent adder to the capacity revenue value continue to be used for 2015 executed contracts for units that serve as load reducers.

Pursuant to Section 8005a(p)(4)(B)(i), the price elements of avoided line losses, environmental attributes, and the value of a long-term contract remain fixed at their values at the time a contract is signed for the duration of an executed contract, except that the Board may periodically adjust the value of environmental attributes of an executed contract based upon whether the unit becomes LIHI-certified or loses such certification. Pursuant to Section 8005a(p)(4)(B)(ii), the Board annually may adjust the three elements for inclusion in future executed contracts.

In the 2013 and 2014 Orders, we determined that the value for avoided line losses would be calculated as either 3 or 5 percent of the sum of the value of the energy and capacity elements. If there is one transformation (from 115 KV to interconnection voltage), then the losses are assumed to be 3 percent. If there is an additional transformation (from sub-transmission voltage to interconnection voltage), then the losses are assumed to be 5 percent. Given the absence of comments, we find no reason to change our previous rulings. Accordingly, we determine that the values for avoided line losses shall remain at 3 or 5 percent for 2015 executed contracts.

In the 2014 Order, we determined that the environmental attribute values would be determined based on the renewable energy credits ("RECs") attributable to the plant's generation. The values are \$23 per MWh for LIHI-certified plants entering a 10-year contract, \$26 per MWh for LIHI-certified plants entering a 20-year contract, and \$1 per MWh for non-LIHI-certified plants whether entering a 10- or 20-year contract. Given the absence of comments, we find no

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10. FCA results are found at: <http://www.iso-ne.com/isoexpress/web/reports/auctions/-/tree/fcm-auction-results>.

reason to change our 2014 ruling. Accordingly, for this Order, the environmental attribute values shall remain at the 2014 values for 2015 executed contracts.

In the 2013 and 2014 Orders, we determined that a 5 percent adder to the value of the energy and capacity components of the price for 10-year contracts, and a 10 percent adder for 20-year contracts, would be used to reflect the value for long-term contracts. Given the absence of comments, we find no reason to change our previous rulings. Accordingly, for this Order, the contract adder values shall remain at 5 and 10 percent for 2015 executed contracts.

The 2015 values of the elements for use in establishing a standard-offer price for existing hydroelectric facilities with a nameplate capacity of 5 MW or less are summarized below.

<b>2015 Price Elements for Existing Hydroelectric Plants</b>				
	10-Year Contract LIHI certified	10-Year Contract	20-Year Contract LIHI certified	20-Year Contract
Energy	5.83 cents/kWh	5.83 cents/kWh	5.83 cents/kWh	5.83 cents/kWh
Capacity	TBD	TBD	TBD	TBD
Avoided Line Losses	3% or 5%	3% or 5%	3% or 5%	3% or 5%
Environmental Attributes	2.3 cents/kWh	0.1 cents/kWh	2.6 cents/kWh	0.1 cents/kWh
Contract Adder Value	5%	5%	10%	10%
<p>Note: The capacity price element for each hydroelectric unit shall be calculated by multiplying the ISO-NE capacity rating by the FCM payment price and dividing that revenue value by the kWh the plant generates. The capacity rating for an ISO-SOG is the FCM-qualified winter and summer capacity rating. The capacity rating for a load-reducer is its generation at the time of the ISO-NE peak for the previous two years. The FCM payment price for use in 2015 contracts is \$2.69 per kW-month. For load reducers a 15 percent adder shall be made to the capacity revenue value.</p>				

Pursuant to Section 8005a(p)(3)(A), the statutory cap of \$0.08 per kWh is required to be adjusted for inflation annually using the CPI. For 2014, the statutory cap was adjusted to \$0.081 per kWh. The CPI rose 0.8 percent in 2014.<sup>11</sup> For 2015, the statutory cap is adjusted to \$0.082 per kWh.

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11. The 2014 CPI can be found at: <http://www.bls.gov/cpi/tables.htm>.

Finally, as discussed above, Section 8005a(p)(4) requires that the Board annually adjust the energy and capacity values determined in this Order. Accordingly, we require that participants file, by November 16, 2015, recommendations with regard to the values to be used for determining the energy and capacity elements of the price for both existing and future standard-offer contracts.

#### **IV. CONCLUSION**

In conclusion, pursuant to Section 8005a(p)(4)(A), we adjust the energy and capacity elements of the standard-offer price for application to all executed contracts for existing hydroelectric plants. In addition, pursuant to Section 8005a(p)(4)(B)(ii), we make no adjustments to the values of the elements of the price for environmental attributes, avoided line losses, and long-term contracts.

Accordingly, we establish that the standard-offer price for existing hydroelectric plants shall be the lesser of \$0.082 per kWh, or the sum of five elements identified in this Order.

#### **V. ORDER**

IT IS HEREBY ORDERED, ADJUDGED, AND DECREED by the Public Service Board of the State of Vermont that:

1. Effective for any standard-offer contract executed subsequent to the issuance of this Order, the standard-offer price for existing hydroelectric plants under 30 V.S.A. § 8005a(p) shall be as determined herein.
2. On or before November 16, 2015, participants in this proceeding shall file recommendations with regard to the statutory criteria under 30 V.S.A. § 8005a(p)(3)(B) for adjusting the standard-offer price for existing hydroelectric plants.

Dated at Montpelier, Vermont, this 6<sup>th</sup> day of March, 2015.

<u>s/James Volz</u>	)	
	)	PUBLIC SERVICE
	)	
<u>s/Margaret Cheney</u>	)	BOARD
	)	
	)	OF VERMONT
<u>s/Sarah Hofmann</u>	)	

OFFICE OF THE CLERK

FILED: March 6, 2015

ATTEST: s/Susan M. Hudson  
Clerk of the Board

*NOTICE TO READERS: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Board (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: psb.clerk@state.vt.us)*

*Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Board within thirty days. Appeal will not stay the effect of this Order, absent further order by this Board or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Board within ten days of the date of this decision and Order.*