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NOTICE¹

Monthly Report on Status toward Attainment of the 5.1% Milestone for Closure of the SREC Program – Docket No. QO19010068

February 28, 2020

Under rules recently adopted by the New Jersey Board of Public Utilities (“NJBPU”) at 52 N.J.R. 146(b) (“the 5.1% Calculation Rule”), Staff is required to “provide quarterly forecasts on the status of the 5.1% Milestone until it appears that this milestone will be reached within six months, and will provide monthly forecasts thereafter.”

Staff hereby provides notice that it forecasts that 5.1% of the kilowatt-hours sold in New Jersey will be supplied by qualified solar generation facilities (“5.1% Milestone”) around May/June 2020.

Staff notes that attainment of the 5.1% Milestone could vary based on changing market conditions. The final method of calculating the 5.1% Milestone was determined by the Board in an Order dated February 19, 2020.²

Calculation of the 5.1% Milestone

As reflected in the 5.1% Calculation Rule, Staff is required to estimate the amount of solar electricity as a percentage of retail sales over the past twelve months and forecast the date of attainment of the 5.1% Milestone. In each illustrative calculation below, Staff uses the monthly cumulative installed solar capacity sourced from the NJ Clean Energy Program (“NJCEP”) Solar Installation Report. The calculated cumulative installed capacity at a given month’s end serves

¹Not a Paid Legal Advertisement

² I/M/O a New Jersey Solar Transition Pursuant to P.L. 2018, c. 17 – Calculation of 5.1% Milestone for SREC Program Closure. Docket No. QO19010068

as the basis for estimating solar production in the following month using the appropriate monthly production factor.

In forecasting future monthly solar production, Staff uses a monthly growth rate of 35 MWdc. For example, the latest NJCEP Solar Installation Report issued on February 19, 2020 showed 3,217 MWdc of cumulative installed capacity through January 31, 2020. February 2020's estimated solar electricity production is 3,217 MWdc multiplied by the monthly output factor of 84 MWh per MWdc. For this report, the forecast for cumulative installed solar capacity for March 2020 of 3,252 MWdc (3,217 plus 35) will be used to calculate the month of 5.1% Milestone attainment.

Staff's expected monthly solar production factors, in MWh per MWdc, are presented in Table A. They were calculated using the National Renewable Energy Lab tool, PVWatts, based on the 10-year average of 1,154 MWh of solar per MW of installed solar provided by PJM-EIS.³

The aggregate sum of the products of the monthly output factors multiplied by the cumulative installed capacity reported through December 2019, and forecast through June 2020, form the numerator in the forecast of solar electricity generation as a percentage of statewide retail electricity sales.

Table A. Monthly Solar Output based on 10-year average annual solar productivity

Expected Monthly Output Factor		
Month	(MWh)	
June 2019	118	Monthly expected solar electricity production factors in Mwh per MWdc installed serve as a proxy for NJ fleetwide productivity based on the PJM-EIS NJ Solar Performance Analysis
July 2019	123	
Aug. 2019	115	
Sept. 2019	100	
Oct. 2019	84	
Nov. 2019	67	
Dec. 2019	58	
Jan. 2020	72	
Feb. 2020	84	
Mar. 2020	102	
Apr. 2020	113	Derived from PVWatts results for a 1 kWdc fixed roof mount system located in Trenton 08625 with 20 degree tilt and 180 degree azimuth, system losses of 26.25 percent and inverter efficiency of 96%.
May 2020	118	
Total	1154	

Table B. Monthly Solar Output Factors applied to Reported and Forecast Solar Capacity (July 1, 2019 to June 30, 2020)

	Expected Solar Output Factor (MWh/MW)	NJCEP Reported Capacity & Growth @ 35 MW/mo. at Month's Start	
		(MW)	Solar Productivity *(MWh)
July 2019	123	2,944	362,112
Aug. 2019	115	2,982	342,930
Sept. 2019	100	3,008	300,800
Oct. 2019	84	3,062	257,208
Nov. 2019	67	3,098	207,566
Dec. 2019	58	3,125	181,250
Jan. 2020	72	3,186	229,392
Feb. 2020	84	3,217	270,228
Mar. 2020	102	3,252	331,704
Apr. 2020	113	3,287	371,431
May 2020	118	3,322	391,996
June 2020	118	3,357	396,126
Annual Total**	1154		3,642,743

Retail Sales

To estimate the amount of retail sales over the previous twelve months, in preparing this Notice, Staff used the 4.97% load reduction (or "line loss") reported by TPS in the RPS compliance process for EY19 to the GATS-supplied statewide aggregate of "unadjusted load served." Since

³ For further information about the calculation of the monthly solar production factors in Table A, please see Staff's Monthly Report on Status toward Attainment of the 5.1% Milestone for Closure of the SREC Program dated February 7, 2020 (available at the following link: <https://njcleanenergy.com/files/file/Notice%20on%205-1%20Percent%20Milestone.pdf>)

the statute bases the 5.1% Milestone on retail electricity sales, Staff used a 4.97% line loss adjustment to convert wholesale sales to retail sales. The unadjusted load served by TPS and BGS Providers for the twelve months ending January 31, 2020, on a wholesale basis, was 74,154,955 MWh. Reducing that figure by 4.97% provides an estimate of retail sales of 70,469,454 MWh.

Results from the Application of Refined Assumptions

Multiplying the monthly output factors identified in Table A by the actual and forecast cumulative installed capacity figures for the twelve-month period ending June 30, 2020 in Table B, results in an estimate of solar electricity generation of 3,631,688 MWh. Dividing the sum of each month's estimated or forecast solar electricity production by the estimate or forecast of retail electricity sales results in the percentage of solar generated compared to retail sales over the previous twelve months.

With the revised inputs described above, Staff estimates that solar electricity generation over the twelve months ending on February 29, 2020 will be 4.88% of total retail kilowatt-hours sold and forecasts that the state will attain 5.1% in June 2020.

Table C below illustrates how the application of solar output factors to installed capacity results in a monthly estimate of solar electricity generation and the progress toward attainment of the 5.1% Milestone when divided by a retail sales forecast. The table uses actual data available through January 2020 and forecasts for solar installation growth and retail sales growth through June 2020.

To show the sensitivity of the calculations to the rate of growth in solar installations, solar growth forecasts of 35 MWdc per month and 45 MWdc per month are shown for February through June 2020. For context, Staff anticipates that the March solar installation report will show that calendar year 2019 set a record for installed capacity of approximately 450 MWdc, a monthly average of 37.5 MWdc. Given the December 31, 2019 step-down in the Federal Investment Tax credit, Staff anticipates a slight reduction in installation rates and believes average solar installation activity to be the more likely scenario through June 30, 2020.

The estimated retail sales for the twelve-month period ending January 31, 2020 was used as the denominator in each monthly calculation of the percentage of attainment. For purposes of calculating the percentage in future months, *i.e.*, January 2020 through June 2020, Staff assumes that retail sales in these months will be identical to the corresponding months last year. Since these months are not typically subject to extreme variability in electricity consumption, Staff believe that a forecast of flat retail sales over the six months is reasonable. For illustration purposes, an alternative scenario of high retail sales growth is provided to demonstrate the impact on the forecast of 5.1% Milestone attainment. Should retail sales rebound in the remainder of EY2020 and make up for the comparatively low first six months of reported retail sales in the first six months of the energy year, then the 5.1% Milestone would be attained after June 2020. Conversely, if retail sales remain low throughout EY2020, the 5.1% Milestone could be attained prior to June 2020.

Table C. Monthly Estimate / Forecast of Solar Electric as a Percentage of Retail Electricity Sales for the twelve months ending June 30, 2020.

Scenarios Forecasting Fleetwide Solar Electric Generation as a Percent of Retail Sales in NJ (February 19, 2020)																					
Monthly Solar Production		Historic Production Estimates			Average Future Installation Growth			High Future Installation Growth													
Expected Solar Output Factor (MWh/MW)	Estimated Production by Month	NJCEP Reported Installed Capacity at Month Start (MW)	Production *(MWh)	NJCEP Reported Capacity & Growth @ 35 MW/mo. at Month's Start (MW)	% Solar MWh toward retail sales (%)	Solar Productivity *(MWh)	NJCEP Reported Capacity & Growth @ 45 MW/mo. at Month's Start (MW)	% Solar MWh toward retail sales (%)	Solar Productivity *(MWh)												
June 118	June 2018	2,536	299,248	2,982	342,930	4.60%	2,982	342,930	4.60%												
July 123	July 2018	2,578	317,094	3,008	300,800	4.65%	3,008	300,800	4.65%												
August 115	Aug. 2018	2,596	298,540	3,062	257,208	4.70%	3,062	257,208	4.70%												
September 100	Sept. 2018	2,626	262,600	3,098	207,566	4.74%	3,098	207,566	4.74%												
October 84	Oct. 2018	2,643	222,012	3,125	181,250	4.78%	3,125	181,250	4.78%												
November 67	Nov. 2018	2,681	179,627	3,186	229,392	4.82%	3,186	229,392	4.82%												
December 58	Dec. 2018	2,704	156,832	3,217	270,228	4.88%	3,231	271,404	4.88%												
January 72	Jan. 2019	2,743	197,496	3,252	331,704	4.94%	3,276	334,152	4.95%												
February 84	Feb. 2019	2,773	232,932	3,287	371,431	5.01%	3,321	375,273	5.02%												
March 102	Mar. 2019	2,809	286,518	3,322	391,996	5.09%	3,366	397,188	5.11%												
April 113	Apr. 2019	2,836	320,468	3,357	396,126	5.17%	3,411	402,498	5.20%												
May 118	May 2019	2,860	337,480	3,392	417,216	5.25%	3,456	425,088	5.29%												
Annual Total** 1154	EY19 Total	-	3,110,847	Total (8/19 - 07/20)	-	3,697,847	-	3,724,749	-												
	June 2019	2,883	340,194																		
	July 2019	2,944	362,112																		
	Total (8/18 - 7/19)		3,196,811																		
<p>EY19 (6/1/18 - 5/31/19) Solar as a % of Retail Sales</p> <table border="0"> <tr> <td>Retail Sales Reported for Compliance</td> <td>EY19 ending % solar</td> </tr> <tr> <td>Actual (MWh) 74,482,963</td> <td>4.18%</td> </tr> </table> <p>* Uses monthly beginning installed capacity with PTOs reported to NJCEP through 12.31.19 multiplied by monthly production factors consistent with PJM-EIS Data. ** PWatts annual output values sum to 1154 MWh / MWdc.</p> <p>Actual EY19 year end solar capacity = 2,882 MWdc</p> <p>The cumulative installed capacity for a given month forms the basis for calculating solar production in the following month. For example, the capacity reported through May 31, 2019 is used to estimate the June 2019 solar production. The production values provided above for August 2018 through June 2019 are added to the production estimate in the adjacent table for July 2019 to calculate the percentage of solar electricity in July 2019.</p>										Retail Sales Reported for Compliance	EY19 ending % solar	Actual (MWh) 74,482,963	4.18%								
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<p>Sensitivity of Attainment Percentage to Solar Growth and Retail Sales</p> <p>Average Solar Growth in the remainder of EY 20</p> <table border="0"> <tr> <td>w/ EY20 Retail Sales Forecast</td> <td>June 2020 % solar with growth at 35 MW*</td> </tr> <tr> <td>6 Months Actual plus 6 Flat 70,469,454</td> <td>5.169%</td> </tr> <tr> <td>12 Mos. Constant at EY 19's 74,482,963</td> <td>4.891%</td> </tr> </table> <p>* NJCEP reported installed solar at 3186 MW on January 31, 2019 with installed capacity estimated to grow @ 35 MW per month and production factor used in the PJM-EIS Data. With slower solar installation rates and very high retail sales in the next five months, the 5.1% milestone may be attained after June 30, 2020.</p> <p>High Solar Growth in the remainder of EY 20</p> <table border="0"> <tr> <td>w/ EY20 Retail Sales Forecast</td> <td>June 2020 % solar with growth at 45 MW*</td> </tr> <tr> <td>6 Months Actual plus 6 Flat 70,469,454</td> <td>5.196%</td> </tr> <tr> <td>12 Mos. Constant at EY 19's 74,482,963</td> <td>4.916%</td> </tr> </table> <p>* NJCEP reported installed solar at 3186 MW on December 31, 2019 with installed capacity growing @ 45 MW per month and production factor used in the PJM-EIS Data. Higher solar growth results still results in the 5.1% trigger attainment in June 2020 if annualized retail sales remain at the 70 million MWh exhibited through January 2020. Very high retail sales in the next five months may result in the milestone being attained after June 2020.</p>										w/ EY20 Retail Sales Forecast	June 2020 % solar with growth at 35 MW*	6 Months Actual plus 6 Flat 70,469,454	5.169%	12 Mos. Constant at EY 19's 74,482,963	4.891%	w/ EY20 Retail Sales Forecast	June 2020 % solar with growth at 45 MW*	6 Months Actual plus 6 Flat 70,469,454	5.196%	12 Mos. Constant at EY 19's 74,482,963	4.916%
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Aida Camacho-Welch
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 Secretary of the Board

Dated: February 28, 2020