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**STATE OF NEW JERSEY**  
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## **NOTICE<sup>1</sup>**

### **Monthly Report on Status toward Attainment of the 5.1% Milestone for Closure of the SREC Program**

February 7, 2020

Under rules recently adopted by the New Jersey Board of Public Utilities (“NJBP”) 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 June 2020.**

Staff notes that attainment of the 5.1% Milestone could vary based on changing market conditions or final Board action directing Staff to modify the calculation methodology, which is currently the subject of an ongoing stakeholder proceeding. Staff recognizes that further Board action is necessary and this Notice is not intended to prejudice the outcome of that process.

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

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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 January 15, 2020 showed 3,166 MWdc of cumulative installed capacity through December 31, 2019. January 2020's estimated solar electricity production is 3,166 MWdc multiplied by the monthly output factor of 72 MWh per MWdc. For this report, February 2020's forecast for cumulative installed solar capacity of 3,201 MWdc will be used to calculate the month of 5.1% Milestone attainment.

On January 8, 2020, PJM-EIS provided to Staff an updated estimate of solar performance of NJ solar facilities for each energy year from Energy Year 2010 to Energy Year 2019. This data showed a decrease to 1,110 MWh in Energy Year 2019 for SRECs created per MWdc installed by facilities reporting a full year's worth of meter readings. PJM-EIS also provided six- and ten-year averages of solar production. To account for the full range of variability in solar production, Staff uses the ten-year average of 1,154 MWh of solar per MW of installed solar. This annual average is then used as the basis for setting monthly production factors, calculated using the National Renewable Energy Lab tool, PVWatts (Table A). These monthly production factors are applied to the NJCEP reports of cumulative installed capacity as described above.

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)

Month	Expected Solar Output Factor (MWh/MW)	NJCEP Reported Capacity & Growth @ 35 MW/mo. Solar Productivity	
		(Starting MW)	*(MWh)
July 2019	123	<b>2,943</b>	361,989
Aug. 2019	115	<b>2,981</b>	342,815
Sept. 2019	100	<b>3,007</b>	300,700
Oct. 2019	84	<b>3,060</b>	257,040
Nov. 2019	67	<b>3,095</b>	207,365
Dec. 2019	58	<b>3,119</b>	180,902
Jan. 2020	72	<b>3,166</b>	227,952
Feb. 2020	84	3,201	268,884
Mar. 2020	102	3,236	330,072
Apr. 2020	113	3,271	369,623
May 2020	118	3,306	390,108
June 2020	118	3,341	394,238
Total	<b>1154</b>		3,631,688

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 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, on a wholesale basis, for the twelve months ending December 31, 2019 was 74,583,296 MWh. Reducing that figure by 4.97% provides an estimate of retail sales of 70,876,506 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 January 31, 2020 will be 4.81% 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.

Solar growth forecasts of 35 MWdc per month and 45 MWdc per month are used for February through June 2020. For context, Staff anticipates that the February 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 average solar installation activity to be the more likely scenario through June 30, 2020.

The estimated retail sales for the twelve-month period ending December 31, 2019 was used as the denominator in each monthly calculation of the percentage of attainment. For 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, then the 5.1% Milestone would be attained after 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 (January 31, 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	NICEP Reported Installed Capacity at Month Start (MW)	NICEP Reported Production *(MWh)	NICEP Reported Capacity & Growth @ 35 MW/mo. at Month's Start (MW)	% Solar MWh toward retail sales	NICEP Reported Capacity & Growth @ 45 MW/mo. at Month's Start (MW)	% Solar MWh toward retail sales			
June 118	June 2018	2,536	299,248	July 2019	2,943	361,989	4.53%	July 2019	2,943	361,989	4.53%
July 123	July 2018	2,578	317,094	Aug. 2019	2,981	342,815	4.59%	Aug. 2019	2,981	342,815	4.59%
August 115	Aug. 2018	2,596	298,540	Sept. 2019	3,007	300,700	4.65%	Sept. 2019	3,007	300,700	4.65%
September 100	Sept. 2018	2,626	262,600	Oct. 2019	3,060	257,040	4.70%	Oct. 2019	3,060	257,040	4.70%
October 84	Oct. 2018	2,643	222,012	Nov. 2019	3,095	207,365	4.74%	Nov. 2019	3,095	207,365	4.74%
November 67	Nov. 2018	2,681	179,627	Dec. 2019	3,119	180,902	4.77%	Dec. 2019	3,119	180,902	4.77%
December 58	Dec. 2018	2,704	156,832	Jan. 2020	3,166	227,952	4.81%	Jan. 2020	3,166	227,952	4.81%
January 72	Jan. 2019	2,743	197,496	Feb. 2020	3,201	268,884	4.86%	Feb. 2020	3,211	269,724	4.86%
February 84	Feb. 2019	2,773	232,932	Mar. 2020	3,236	330,072	4.92%	Mar. 2020	3,256	332,112	4.93%
March 102	Mar. 2019	2,809	286,518	Apr. 2020	3,271	369,623	4.99%	Apr. 2020	3,301	373,013	5.00%
April 113	Apr. 2019	2,836	320,468	May 2020	3,306	390,108	5.07%	May 2020	3,346	394,828	5.08%
May 118	May 2019	2,859	337,362	June 2020	3,341	394,238	5.12%	June 2020	3,391	400,138	5.15%
Annual Total** 1154	EY19 Total	-	3,110,729	Total		3,631,688		Total		3,648,578	
	June 2019	2,882	354,486	Sensitivity of Attainment Percentage to Solar Growth and Retail Sales							
	Total (7/18 - 6/19)		3,165,967	Average Solar Growth in the remainder of EY 20							
EY19 (6/1/18 - 5/31/19) Solar as a % of Retail Sales				w/ EY20 Retail Sales Forecast				June 2020 % solar with growth at 35 MW*			
Retail Sales Reported for Compliance				6 Months Actual plus 6 Flat				12 Mos. Constant at EY 19's			
Actual (MWh) 74,482,963				70,876,506				74,482,963			
EY19 ending % solar 4.18%				5.124%				4.876%			
* Uses monthly beginning installed capacity with PTOs reported to NICEP through 12.31.19 multiplied by monthly production factors consistent with PJM-EIS Data.											
** PVWatts annual output values sum to 1154 MWh / MWdc.											
Actual EY19 year end solar capacity = 2,882 MWdc											
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.											
High Solar Growth in the remainder of EY 20											
w/ EY20 Retail Sales Forecast				June 2020 % solar with growth at 45 MW*							
6 Months Actual plus 6 Flat				70,876,506				5.148%			
12 Mos. Constant at EY 19's				74,482,963				4.899%			
* NICEP reported installed solar at 3166 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.											

*Aida Camacho-Welch*  
**Aida Camacho-Welch**  
 Secretary of the Board

Dated: February 7, 2020