

To: RHODE ISLAND PUBLIC UTILITIES COMMISSION

From: RICHARD HAHN, DAYMARK ENERGY ADVISORS

Date: JUNE 15, 2017

**Subject: LONG-TERM CONTRACTING FOR RENEWABLE ENERGY
RECOVERY FACTOR
EFFECTIVE JULY 1, 2017 THROUGH DECEMBER 31, 2017**

INTRODUCTION

On May 15, 2017, National Grid (“NGRID” or the “Company”) filed with the Rhode Island Public Utilities Commission (the “Commission”) for approval of a proposed Long-Term Contracting for Renewable Energy Recovery (LTCRER) Factor to be effective July 1, 2017 through December 31, 2017, to recover costs associated with the Long-Term Renewable Energy Contracts. The Rhode Island Division of Public Utilities and Carriers (the “Division”) has retained Daymark Energy Advisors to assist in its review of the filing. This memorandum provides the results of Daymark’s review. Based upon my review of the filing and the Company’s responses to data requests, I recommend that the recovery factor proposed by the Company be approved.

OVERVIEW OF THE FILING

The Company is requesting that the Commission approve a recovery factor of \$0.00664 per KWH. This compares very closely to the \$0.00667 per KWH factor that the Commission approved in this docket for effect January, 2017, as adjusted to a rate of \$0.00654 effective April, 2017 (to reflect an updated LTCRER Reconciliation Factor¹.) While the proposed factor is very nearly equal to the previous factor, there are some differences. Estimated market revenues from the sale of energy and RECs are lower, due to lower market prices when compared to the prior

¹ See Docket 4691.

period. Estimated capacity revenues and KWH sales are higher than in the prior period. As shown in Figure 1 below, these changes offset, resulting in a proposed factor that is comparable to the previous factor.

Figure 1

RIPUC Docket No. 4673 Long-Term Contracting for Renewable Energy Recovery Factor		
	Proposed Jul to Dec 2017	Approved Jan to Jun 2017
Estimated Generator Output - MWH	192,091	197,485
Estimated Contract Costs	\$33,542,246	\$34,240,592
Estimated Market Value		
Energy	\$7,212,973	\$9,906,794
RECs	\$3,553,684	\$4,344,672
Capacity	\$1,229,094	\$539,370
subtotal	\$11,995,751	\$14,790,836
Estimated Administrative Costs	\$18,772	\$0
Net Amount to be Recovered	\$21,565,267	\$19,449,756
Forecasted KWH sales	3,880,794,910	3,562,840,141
Adjustment for Uncollectables	1.25%	1.25%
LTCRER Factor	\$0.00561	\$0.00551
Current Reconciliation Factor	\$0.00103	\$0.00116
Total Proposed LTC Recovery Factor	\$0.00664	\$0.00667

ANALYSIS

The key assumptions used by the Company to estimate this recovery factor are:

1. The estimated output of each project covered by this program;
2. The contract prices paid; and

3. The market prices for energy, RECs, and capacity.

Figure 2 below provides a summary of the capacity factor assumptions used by the Company to estimate the output of each project included in this filing.

Figure 2

RIPUC Docket No. 4673		
Capacity Factor Assumptions		
	Proposed	Approved
	Jul to Dec 2017	Jan to Jun 2017
RI LFG GENCO	73%	76%
Black Bear Hydro	22%	22%
Wind Energy Development	76%	81%
Deepwater Wind	47%	47%
All solar projects	14%	14%

In response to Division Data Request 3-3, the Company provided operating data that showed monthly output for each project in the last two years. I compared the estimated output to the actual output, and summarized the results in Figure 3 below. These results show that the Company's output estimated comport reasonable well with projects that have two years of operating data.

Figure 3

Comparison of Estimated Output to Actual Operating Data Last Two Years				
Unit	Estimated Six-Month Output	Six-Month Rolling Sum of Output Generated May 2015 to April 2017		
		Min	Mean	Max
RI LFG Genco Asset No. 40054	102,637	95,687	101,529	105,925
Wind Energy Dev. NK Green LLC Asset No. 42394	1,463	917	1,304	1,702
Black Bear Orono B Hydro Asset No. 38083	13,175	12,163	13,939	15,555
Deepwater Wind Asset No. 38495	61,758	n/a	n/a	n/a
Subtotal of Solar Projects with Two or More Years of Operations	9,414	6,762	9,704	13,197
Subtotal of Solar Projects with Less Than Two Years of Operations	3,644	n/a	n/a	n/a
	192,091			

The Deepwater Wind Project became commercially operable on December 12, 2016, so there is only four full months of operating data thus far. As shown in Figure 4 below, Deepwater Wind's actual capacity factor in 2017 was 39%, compared to the 47% value assumed by the Company. Given that Deepwater Wind has a short operational history, I do not, at this time, recommend revising the Company's estimated output for this project. The Company should monitor actual output for this project and make any appropriate adjustments in subsequent filings.

Figure 4

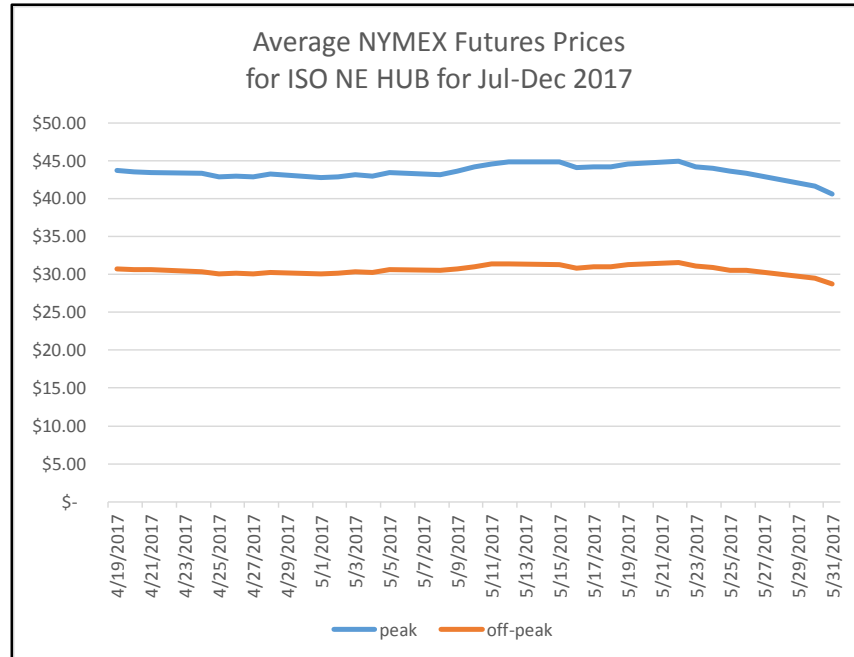
Deepwater Wind Asset No. 38495			
Commercial Operation Date:			12/12/2016
	Total	Peak	Off Peak
Dec-16	4,739	2,028	2,711
Jan-17	8,206	3,709	4,496
Feb-17	7,801	3,425	4,376
Mar-17	10,514	5,032	5,482
Apr-17	6,904	2,825	4,079
total from COD	38,163		
2017 total	33,424		
# days 2017	120		
2017 per day	279		
2017 CF	39%		

Based upon the above discussion, I find that the Company's estimated output values are reasonable.

The assumed contract prices for the July to December 2017 period are the same as the contract prices that were included in the prior factor approved by the Commission. I find these prices to be reasonable and recommend that they be utilized in this proceeding.

To estimate market energy prices for the July to December 2017 period, the Company used monthly NYMEX futures prices for the ISO New England Hub as they existed on May 10, 2017. I was able to verify the prices used by the Company. Since May 10th, market prices remained steady until the very end of May, when energy futures prices fell. See Figure 3 below. However, the prices assumed by the Company are reasonable even considering this change, and I recommend that they be used in establishing the proposed recovery factor in this proceeding.

Figure 5



As it has done in prior filings, the Company used broker quotes to estimate a price for RECs. On May10, 2017, the Company averaged several broker quotes to arrive at a REC price of \$18.50. Although prices for new Rhode Island RECs have been volatile recently, the Company's assumption is within the bounds of recent market data. I recommend that the price proposed by the Company be used in this proceeding.

In this filing, the Company has included an estimate of capacity revenues from the Black Bear Hydro Project in addition to capacity revenues from the RI LFG Genco project. I have reviewed the Company's assumptions regarding the capacity price and the amounts of capacity to be provided. I find them to be reasonable, and recommend that they be used in this proceeding.

The Company has also included in its filing a discussion of the possibility that the amount of capacity provided by the RI LFG Genco project may decrease in the future, pursuant to a provision in the contract. Because this change will occur in future capacity years and does not affect the factor being estimated for July to December 2017 in this proceeding, there is no need to address this issue at this time.