



January 27, 2017

The Hon. Jorge O. Elorza
Mayor

Ricky Caruolo
General Manager

Mrs. Luly Massaro
Commission Clerk
RI Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

BOARD OF DIRECTORS

Xaykham Khamsyvoravong
Chairperson

Joseph D. Cataldi
Vice Chairperson

Michael J. Correia
Councilperson

Sabina Matos
Councilperson

Lawrence J. Mancini
Ex-Officio

Cristen L. Raucci, Esq.
Member

Kerri Lynn Thurber
Member

Carissa R. Richard
Secretary

William E. O'Gara, Esq.
Legal Advisor

RE: Dk 4618: Bristol County, Set 1-Update

Dear Mrs. Massaro:

Enclosed please find an original and nine copies of Providence Water's updated response to BCWA 1-18(a) originally filed on October 26, 2016.

If you have any questions I can be reached extension 7217.

Sincerely,

Mary L. Deignan-White
Senior Manager of Regulatory

cc: service list(via email)

MEMBER

Rhode Island Water Works Assn.
New England Water Works Assn.
American Water Works Assn.
Water Research Foundation

An EPA WaterSense Partner

(401) 521-6300

552 Academy Avenue
Providence, RI 02908

www.provwater.com

 Follow us @provwater

 Like us at:
facebook.com/Providencewater

PROVIDENCE WATER SUPPLY BOARD
Docket No. 4618

Data Requests of the
Bristol County Water Authority - Set 1
October 5, 2016

BCWA 1-18: On page 9 through 10 of his testimony, Mr. Giasson testifies “Preliminary results of the evaluation indicate that the best option is the outright purchase of solar panels and utilize them at the COF at 125 Dupont Drive. The estimate for purchase and installation of the solar panels is approximately \$2,500,000.”

- a. Identify any and all cost benefit analysis conducted by the PWSB regarding this purchase.
- b. Please identify the payback period for this investment.
- c. Please identify where this expense appears in the “Order of Magnitude” attached to Mr. Giasson’s testimony in Docket 4571.
- d. Please provide the “preliminary results of the evaluation.”

Response:

- a. A cost benefit analysis is provided in the attached Financial Analysis document dated October 7, 2016. Please note that a bid was awarded on October 3, 2016 for \$2,070,772.13 to install solar panels on the roof of 125 Dupont Drive.

Update: The attached financial solar analysis was not included in original response.

- b. The payback period is approximately 9 years as shown in the Financial Analysis.
- c. The Solar Project is not included in the “Order of Magnitude” attached to Mr. Giasson’s testimony in Docket 4571. The Solar Project is being funded from the Capital Budget.
- d. Attached is the “final evaluation” dated June 2016 titled “Preliminary Solar Feasibility Study” performed by CDM Smith.

Providence Water
125 Dupont Drive
Providence, RI
Array Sizing

Financial Analysis
October 7, 2016

hrs/day	4.6	765.0 kW DC 648.3 kW AC 2982 kWhr/day 90709 kWhr/mo 1088504 kWhr/yr	Ameresco Bid Ameresco Bid (DC/AC ratio 1.18) Daily production Annual production
Ameresco Bid Award		\$2,070,772.13	Includes Design, Install, 20-Year Inverter Warranty, Roof Retrofit, and O&M Years 2-11
Total System Cost		(\$145,850.00)	O&M Years 2-11 Cost
		\$1,924,922.13	Ameresco Bid Award minus O&M Years 2-11
RI State Grant Per Watt DC	50kW @ \$1.15	-\$57,500	RI Rebate
RI State Grant Per Watt DC	50kW @ \$1.00	-\$50,000	RI Rebate
RI State Grant Per Watt DC	50kW @ \$.85	-\$42,500	RI Rebate
RI State Grant Per Watt DC	50kW @ \$.70	-\$35,000	RI Rebate
RI State Grant Per Watt DC	50kW @ \$.55	-\$27,500	RI Rebate
RI State Grant Per Watt DC	506.2kW @ \$.40	-\$137,500	RI Rebate
		-\$350,000	RI Rebate to Providence Water after Install Is Complete

\$1,574,922.13 Net Cost to Providence Water after RI Rebate

Year	Assumed Rate Inflation	*Rate	Capital (\$1,924,922.13)	Electric Value	***O&M Costs	Estimated Number of RECs per year	**NEPOOL Class 1 REC value (4% fee)	****% eff drop	kWh/yr	Aggregate Value
0	1.4%		\$350,000.00 ^	\$0	\$ -	0	\$0.00	0.000	1088504	(\$1,924,922.13)
1	1.4%	\$0.145		\$157,398	\$ -	1,088	\$36,556.80	0.993	1088504	(\$1,380,967.62)
2	1.4%	\$0.15		\$158,484	(\$13,320)	1,080	\$36,288.00	0.993	1080885	(\$1,199,515.55)
3	1.4%	\$0.15		\$159,578	(\$13,586)	1,073	\$36,052.80	0.993	1073319	(\$1,017,471.22)
4	1.4%	\$0.15		\$160,679	(\$13,858)	1,065	\$35,784.00	0.993	1065805	(\$834,866.01)
5	1.4%	\$0.15		\$161,788	(\$14,135)	1,058	\$35,548.80	0.993	1058345	(\$651,664.16)
6	1.4%	\$0.16		\$162,905	(\$14,418)	1,050	\$35,280.00	0.993	1050936	(\$467,897.14)
7	1.4%	\$0.16		\$164,029	(\$14,705)	1,043	\$35,044.80	0.993	1043580	(\$283,529.32)
8	1.4%	\$0.16		\$165,162	(\$15,000)	0	\$0.00	0.993	1036275	(\$133,368.30)
9	1.4%	\$0.16		\$166,301	(\$15,300)	0	\$0.00	0.993	1029021	\$17,632.66
10	1.4%	\$0.16		\$167,449	(\$15,607)	0	\$0.00	0.993	1021818	\$169,475.43
11	1.4%	\$0.17		\$168,605	(\$15,919)	0	\$0.00	0.993	1014665	\$322,161.79
12	1.4%	\$0.17		\$169,769	(\$16,238)	0	\$0.00	0.993	1007562	\$472,439.51
13	1.4%	\$0.17		\$170,940	(\$16,561)	0	\$0.00	0.993	1000509	\$623,499.14
14	1.4%	\$0.17		\$172,120	(\$16,888)	0	\$0.00	0.993	993506	\$775,340.99
15	1.4%	\$0.18		\$173,308	(\$17,220)	0	\$0.00	0.993	986551	\$927,965.25
16	1.4%	\$0.18		\$174,504	(\$17,557)	0	\$0.00	0.993	979645	\$1,081,372.00
17	1.4%	\$0.18		\$175,709	(\$17,900)	0	\$0.00	0.993	972788	\$1,235,561.23
18	1.4%	\$0.18		\$176,922	(\$18,248)	0	\$0.00	0.993	965978	\$1,390,532.80
19	1.4%	\$0.19		\$178,143	(\$18,601)	0	\$0.00	0.993	959216	\$1,546,286.49
20	1.4%	\$0.19		\$179,372	(\$18,959)	0	\$0.00	0.993	952502	\$1,702,821.94
21	1.4%	\$0.19		\$180,610	(\$19,322)	0	\$0.00	0.993	945834	\$1,859,910.31
22	1.4%	\$0.19		\$181,857	(\$19,690)	0	\$0.00	0.993	939214	\$2,017,539.60
23	1.4%	\$0.20		\$183,112	(\$20,064)	0	\$0.00	0.993	932639	\$2,175,697.23
24	1.4%	\$0.20		\$184,376	(\$20,444)	0	\$0.00	0.993	926111	\$2,334,370.07
25	1.4%	\$0.20		\$185,648	(\$20,829)	0	\$0.00	0.993	919628	\$2,493,544.39

*Year 1 Electric Rate based on Average of National Grid Bills for 2016

**NEPOOL Class 1 REC yearly amounts are net of the Aggregator's Fee estimated at 4%, REC credits based on \$0.035/kWh, RECs eliminated after year 7

***O&M costs for Years 0-20 based on Ameresco Bid, years 21-25 assumes 3% escalation per year

****Efficiency Drop 0.7% per year

^Positive Capital value in Year 1 reflect Commerce RI Rebate

End Project Value **\$2,493,544.386** Aggregate Value Electricity, REC's, & O&M Costs after 25 years