



MASSACHUSETTS WATER RESOURCES AUTHORITY

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Samantha Meserve
Massachusetts Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

Dear Ms. Meserve,

MWRA is a Massachusetts public authority established by an act of the Legislature in 1984 to provide wholesale water and sewer services to 3.1 million people and more than 5,500 large industrial users in 61 metropolitan Boston communities. MWRA recently worked with National Grid to assess the costs and benefits of installing a combined heat and power (CHP) system at our Pelletizer Plant in Quincy.

MWRA has reviewed the DOER October 2020 report entitled "Alternative Energy Portfolio Standard (APS) Review" (hereafter referred to as "DOER Review") and provides the following comments regarding the CHP analysis. These comments serve as a response to question number #8 of the "APS Minimum Standard Review Stakeholder Questions": *Has the APS incentive had an impact on the decision of system owners to invest in APS eligible technologies? Why or why not.*

- On page 6, the DOER Review states that CHPs do not require APS alternative energy credits (AECs) because CHPs are economic without the support of the APS. MWRA does not agree with this conclusion. In an NGrid September 2020 report entitled "MWRA's Pelletizing Plant Cogeneration Feasibility Assessment" (hereafter referred to as "NGrid Assessment"), MWRA examined the costs and benefits of a CHP at our Pelletizer Plant in Quincy. As shown in Table 1 below, the AECs drive payback down from 8.4 years to 5.7 years and essentially allowed MWRA to move the project to the next step.

Table 1: Costs, Benefits and Payback for MWRA Pelletizer Plant 1.56 MW Electric Capacity CHP*	
Installed cost for complete system	\$ 4,269,240
One-time Ngrid Incentive	\$ 1,417,831
Annual energy costs savings	\$ 642,555
Annual maintenance cost	\$ (186,557)
Annual Alternative Energy Credits (AECs)	\$ 157,920
Annual Lost DR revenue	\$ (116,683)
Simple payback	5.7
Simple payback w/o AECs	8.4
*From "MWRA's Pelletizing Plant Cogeneration Feasibility Assessment", prepared by Andelman & Lelek Engineering for National Grid, September 11, 2020.	

- One page 44 (Table 17), the DOER Review lists out assumed costs per kW capacity of CHPs. In Table 2, we compare DOER Review costs with those from the NGrid Assessment. The installed costs from the NGrid Assessment are considerably larger than those in the DOER Review -- \$2,737/kW to \$2,028/kW. In addition, the maintenance costs from the NGrid Assessment were an order of magnitude larger than those in the DOER Review -- \$120/kW to \$8/kW. The DOER Review appears to include substantial underestimates of CHP cost.

Table 2: Comparison of CHP Costs Between National Grid's "MWRA's Pelletizing Plant Cogeneration Feasibility Assessment" and DOER's "Alternative Energy Portfolio Standard Review"		
Cost Type	NGrid Assessment	DOER Review*
Installed Cost (\$/kW)	\$ 2,737	\$ 2,028
Maintenance Cost (\$/kW)	\$ 120	\$ 8
*Source: Table 17 in DOER report examining large CHP models.		

- Finally, on page 18, the DOER Review states that the CHP costs are modelled as receiving the 10% federal Investment Tax Credit (ITC). As a public authority, MWRA does not qualify for the ITC. In fact, most CHP projects are developed by not-for-profits like hospitals, universities, municipalities, and state agencies that do not qualify for the ITC. By including the ITC, the DOER Review is once again incorrectly lowering CHP costs.

In summary, MWRA believes the DOER Review is incorrect in concluding that CHPs are economic without APS support due to severe underestimation of the CHP costs. Without the APS continuing to offer alternative energy credits for CHPs, MWRA will be unable to justify installing a CHP at their pelletizer plant as part of our overall sustainability strategy of lowering ratepayer rates through smart energy choices.

Please contact Robert Huang, Program Manager, Energy Management, at (857)331-0162 if you have any questions.

Sincerely,



Carolyn Fiore
Deputy Chief Operating Office
MWRA