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VIA ELECTRONIC MAIL: DOER.APS@mass.gov

December 8, 2020

Ms. Samantha Meserve
Commonwealth of Massachusetts
Department of Energy Resources
100 Cambridge Street
Boston, MA 02114

Re: 2020 Alternative Energy Portfolio Standard Review Comments

Dear Ms. Meserve:

Massachusetts Electric Company and Nantucket Electric Company each d/b/a National Grid (“National Grid” or “Company”) are pleased to offer comments on the Department of Energy Resources’ (“DOER”) review of 225 CMR 16.00 Alternative Energy Portfolio Standard (“APS”).

Per 225 CMR 16.07(3), DOER is completing a review of the APS, including a public comment period, by December 31, 2020. This review must “include, but not be limited to, an examination of the costs and benefits of the program to ratepayers, an examination of the effectiveness of the program in meeting the energy and environmental goals of the Commonwealth, and an evaluation of whether the Minimum Standard or its rate of increase, as established in 225 CMR 16.07(2), should be adjusted.” 225 CMR 16.07(3). DOER also is soliciting feedback from stakeholders on 12 questions, as listed in its November 5, 2020 “2020 APS Minimum Standard Review Stakeholder Questions”.

National Grid is pleased to offer the following general comments on the APS, as well as specific comments on Stakeholder Questions 2, 3 and 12.

I. General Comments

National Grid supports the Commonwealth’s ambition to reduce its climate emissions to net zero emissions by 2050, an ambition shared by the Company. National Grid supports the continuation of the APS as it has been a useful tool to reduce greenhouse gas (“GHG”) emissions associated with thermal sources and end uses. As many stakeholders have noted, reducing GHGs in the heating sector is a particularly important and challenging element of economy-wide decarbonization, requiring a broad range of new strategies and expanded fuel sources.

Heat Pumps

National Grid believes the APS should increase the level of incentive funding for heat pumps. Together with the incentives offered by the Program Administrators under the utilities’ Three-

Year Energy Efficiency Plans, this additional funding can help heat pumps become a more cost-effective option for mass-market customers. In addition, the APS requirements for heat pumps should be amended to allow for incentivizing partial electrification of a customers' heating (i.e. requiring less than 90% displacement of existing heating load). This change would encourage achieving GHG reductions where they are feasible, rather than limiting incentives to those customers whose preferences or resources allow them to choose a fully electrified heating system.

Focus on Electric Technologies

The region's long-term heating needs will be best served by a hybrid energy system that continues to use a significant proportion of low-carbon or zero-carbon fuels, along with efficient electric heating, to offer the most reliable, resilient, and affordable heating energy to customers. National Grid believes that there should be policies put in place which can help advance low and zero-carbon fuels, including renewable natural gas ("RNG") and low or zero-carbon hydrogen. However, the APS should continue to be focused on electric-related technologies, in addition to solar thermal. Combining these efforts with gas decarbonization technologies under the APS would introduce a level of complexity into the program that would make it more difficult to administer, comply with, and evaluate. Creating an APS requirement for sellers of natural gas would also result in an inappropriate cross-subsidy from gas customers to electric thermal users and would not address lack of participation by the delivered fuel sector. In addition, including sellers of natural gas in the APS would be unlikely to provide the level of policy certainty necessary to bring RNG or low-carbon hydrogen developers into the market, compared to a policy with specified targets for qualifying fuels over time.

As such, National Grid believes a separate policy mechanism, such as a procurement standard for RNG or low-carbon hydrogen, would more effectively catalyze the market for decarbonized heating fuels than would including these fuels in the APS program. It is important to advance the most affordable and equitable strategies for heat decarbonization for the Northeast, given the unique climate, building stock and energy system characteristics of the region.

Combined Heat and Power Systems Provide Benefits

The APS has created numerous benefits for customers, including economic and environmental benefits associated with Combined Heat and Power ("CHP") technologies. CHP systems are increasingly cost-effective and create reductions in greenhouse gas ("GHG") emissions, and should continue to qualify for Alternative Energy Certificates ("AECs") under the APS. National Grid delivers energy-efficient products and services to our customers through our energy efficiency ("EE") programs where we aim to reduce energy consumption in the Commonwealth. National Grid supports the installation of CHP projects with EE program incentives; a reduction in the availability of incentives through the APS would likely increase the level of EE incentives sought by customers to install CHP facilities, or decrease customer interest in such installations. We work with customers through our energy efficiency programs who rely on the AECs and program incentives to offset operations and maintenance ("O&M") costs and total project costs. Of all the systems installed in over the last four years, the average payback without the AECs was

over six years. Several of these systems would not have been installed if the AECs were not available.

The Daymark Energy Advisors Alternative Energy Portfolio Standard Review (October 30, 2020) (“Daymark Study”) uses some incorrect assumptions that mischaracterize CHP projects in the Commonwealth, including:

- Claims that CHP projects have payback periods below one year
- Incorrect O&M cost assumptions per kW-year
- Claims that installing CHP does not provide GHG emissions reductions

CHP continues to be an important solution to customers’ energy needs and will continue to decrease GHG emissions over the life of every installation. Based on these factors, National Grid believes CHP should continue to qualify for AECs.

The APS Should Be Considered in Conjunction with Other Decarbonization Policies

Generally, National Grid supports the most cost-effective and efficient policies for reducing GHG emissions. National Grid also supports the costs of decarbonization policies being shared equitably among energy users (i.e., electric customers, gas customers, delivered fuel customers, and others). In that context, National Grid recommends that modifications to the APS be considered in light of the Commonwealth’s multiple policies and standards to support decarbonization, which have so far largely been focused on electricity, and paid for by electric customers. Since the APS went into effect in 2009, the legislature has enacted many additional policies to support renewable energy and reduce emissions. Any proposed changes to the APS should not be viewed in isolation; rather it is appropriate to consider other regulations that have (and will) increase costs for electric distribution companies’ (“EDCs”) customers. Any revisions to the APS should consider these new policies and determine if changes to the APS are cost-effective in comparison.

New policies since 2009 include:

- Long term power purchase agreements pursuant to Sections 83A, C, and D
- Solar Carve-out and Solar Carve-out II Compliance Obligations
- Net metering expansion
- Clean Energy Standard and Clean Energy Standard for Clean Existing Generation Units
- 3,200 MW Solar Massachusetts Renewable Energy Target
- Clean Peak Energy Standard

Policies under consideration include:

- Alternation of the Class II Renewable Portfolio Standards; National Grid has estimated increased annual costs from this of \$24 to \$55 million
- An additional 1600 MW of offshore wind

Given these many initiatives and their related costs, the Company recommends DOER focus on sharpening the effectiveness of the APS, rather than dramatically expanding the program’s scale

and cost. In particular, dramatically increasing the annual requirements, or boosting the ACP level, could lead to a return of a shortage in AECs, increases in ACP payments from load serving entities and increases in cost without commensurate program impact. Instead, the Company favors more modest changes in overall future costs of the APS along with refinement and refocusing of the benefits to the most promising resources the program supports.

II. Comments on Stakeholder Questions 2, 3 and 12

Question 2: What are the costs of the APS program to ratepayers, including but not limited to economic, environmental, and societal costs?

Response: National Grid estimates the compliance costs for load-serving entities (“LSEs”), both in Alternative Compliance Payments (“ACP”) and purchase of AECs, as \$315 million from 2009 to 2019. It also estimates the compliance price per megawatt hour in the table below.

	Compliance Costs (\$ millions)	Compliance Price (\$ / MWh)	Alternative Compliance Payment
2019	30.3	14.2	23.13
2018	39.5	18.9	22.64
2017	40.3	20.8	22.23
2016	40.9	21.8	22.00
2015	39.3	21.9	22.02
2014	36.2	21.6	21.72
2013	30.7	21.2	21.43
2012	24.5	20.6	21.02
2011	18.2	20.0	20.40
2010	11.9	19.0	20.00
2009	2.9	17.8	20.00
Total	314.7		

The market has experienced a shortfall in AEC supply from 2009 through 2017 which resulted in multiple LSEs making an ACP to comply with the APS. From 2010 through 2016 over 50% of LSEs’ obligations were met by the ACP.

Question 3: Do you believe the APS program should prioritize technologies which provide the most benefits, such as greatest greenhouse gas emissions reductions?

Response: Generally, the APS (and any other program) should prioritize technologies which provide the most cost-effective GHG emissions reductions. With that said, the APS should also continue to focus on technologies which are electricity-related, as well as solar thermal, and should continue to be funded by electric customers to ensure the broadest base of inclusion in supporting the goals of the APS.

National Grid believes it is reasonable to adjust the factor levels within the APS to better align with customer payback thresholds and project economics. In addition, further review of the

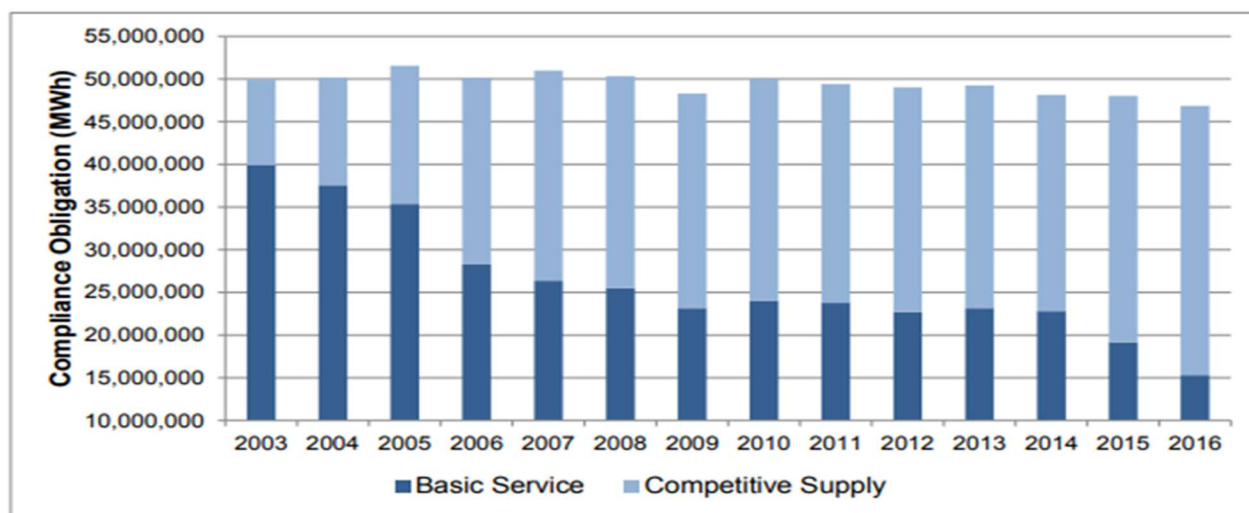
Daymark Study conclusions related to CHP units should be undertaken. The Company can provide additional detailed information on the specific CHP installations, project costs, and role of AECs which are the source of the Company's comments to DOER in that process.

As part of the broader set of policies that the Commonwealth has embraced to reduce carbon emissions and increasingly electrify heating needs, it is also reasonable to provide more support to technologies that provide the greatest GHG reduction potential. However, this should only be one factor, along with others like resource potential, customer interest and acceptance, and project economics, in determining the level of APS support to a specific technology.

Question 12: Is there any additional information you believe DOER should consider in its 2020 APS Minimum Standard Review?

Response: In the event that DOER makes changes to the APS obligation percentage, no existing electricity supply contracts should be exempt. Many EDC customers purchase their commodity service from competitive suppliers through long-term contracts, and a significant portion of National Grid's distribution customers purchase power through the Company's Municipal Aggregators' tariff. DOER should consider that contracts for municipal aggregations often include a section to address regulatory events, in which case the competitive suppliers can pass along an increase in costs to participating customers. Competitive suppliers for non-municipal aggregation customers may also have this contract language. If the DOER were to exempt any of this electricity load from an increase to the APS obligation, this will result in an EDC's Basic Service customers bearing a disproportionate share of the increase. This is because Basic Service generally employs shorter contracts and may not qualify for such an exemption. In addition, if the DOER were to apply an APS increase mostly to Basic Service customers, it is not guaranteed to significantly further the state's GWSA goals because Basic Service load as a percentage of EDC load has decreased significantly over the years, as illustrated in the graph below:

Retail Load Obligation by Supplier Type, 2003-2016



Accordingly, if DOER does decide to move forward with an APS increase, it should not exempt any load from such increase, or it risks imposing a disproportionate share of the cost burden on

Basic Service customers, and it may not even achieve the additional reductions that are sought by the increase.

* * *

Thank you again for the opportunity to provide comments on the APS during this review.

Sincerely,

A handwritten signature in black ink, appearing to read "Ian Springsteel". The signature is written in a cursive, flowing style.

Ian Springsteel

Director, U.S. Retail Regulatory Strategy