The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner

January 24, 2018

The Honorable Richard Barry
Chair, Science, Technology, and Energy Committee
Legislative Office Building, Room 304
Concord, NH 03301

RE: HB 1338, *An Act establishing a committee to study the changes in law necessary to allow for microgrids in electricity supply*

Dear Chair Barry and Members of the Committee:

Thank you for the opportunity to testify on HB 1338. This bill establishes a committee to study the changes in law necessary to allow for microgrids in electricity supply. In that clean microgrids offset more polluting sources of electric generation, the New Hampshire Department of Environmental Services (NHDES) supports this bill.

The US Department of Energy (DOE) defines a microgrid as:

> *"a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid. A microgrid can connect and disconnect from the grid to enable it to operate in both grid-connected or island mode."*[1]

The concept of microgrids is of growing interest in New Hampshire as more frequent and extreme storm events have impacted the electric power grid over the last several decades. The top five most significant power outages have all occurred during the past decade and include: the 2008 ice storm; the 2010 windstorm; the 2011 pre-Halloween storm; the 2017 windstorm; and the Thanksgiving Eve 2014 Nor'easter.[2] Each of these storms affected more than 230,000 customers and with outage durations that exceeded 100 hours.[3] The increasing frequency of these storms reduces the time to recover completely between incidents.

Microgrids offer the potential to counter some of the impacts of these extreme storms by enabling entire facilities, such as hospitals or campuses, or even whole communities to remain online during power outages. This would provide significant public safety and economic benefits by allowing critical services and downtown business to continue operation uninterrupted.

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[1] Ton, T. and Smith, M. (2012). The U.S. Department of Energy's Microgrid Initiative, The Electricity Journal, https://energy.gov/sites/prod/files/2016/06/f32/The%20US%20Department%20of%20Energy%27s%20Microgrid%20Initiative.pdf.

[2] Cousineau, M. (2017). Power outages left up to 450,000 in the dark, Union Leader (October 30. 2017), http://www.unionleader.com/weather/Power-outages-left-up-to-450000-in-the-dark-10312017.

[3] PUC (2015). New Hampshire Historical Outages All Utilities For Wide Scale, NH PUC Safety Division (June 12, 2015), http://puc.nh.gov/Safety/Electrical%20Safety/Chart%20of%20Historical%20Storms.pdf

The importance of microgrids was highlighted in the 2014 New Hampshire 10-Year State Energy Strategy, which stated that:

> *"Grid modernization offers important opportunities to improve the resiliency of our energy systems. Advanced development of self-contained 'micro-grids' in combination with on-site generation can allow facilities to withstand major storms and other energy outages."* [4]

The New Hampshire Public Utilities Commission (PUC) opened a docket, IR 15-296, to investigate grid modernization in New Hampshire. A report was submitted to the PUC by a working group in March 2017 following a nearly year-long investigation.[5] This docket touched on, but did not adequately address, the issue of microgrids and so further exploration is warranted.

It is important to ensure that existing law does not inadvertently prevent our state from incorporating advanced energy solutions that will provide both greater efficiency and greater resiliency. A legislative study committee is the appropriate mechanism to review current law and recommend appropriate changes.

Thank you again for the opportunity to comment on HB 1338. If you have any questions or require further information, please contact either Chris Skoglund, Climate and Energy Program Manager, Air Resources Division (Christopher.Skoglund@des.nh.gov, 271-7624) or Rebecca Ohler, Administrator, Technical Services Bureau, Air Resources Division (Rebecca.Ohler@des.nh.gov, 271-6749).

Sincerely,

Robert R. Scott
Commissioner

cc: Representative P. Schmidt; Senator Watters

[4] NH OEP (2014). New Hampshire 10-Year State Energy Strategy, New Hampshire Office of Energy & Planning, https://www.nh.gov/osi/energy/programs/documents/energy-strategy.pdf.

[5] NH PUC (2017). Grid Modernization in New Hampshire: Report to the New Hampshire Public Utilities Commission, https://www.puc.nh.gov/Regulatory/Docketbk/2015/15-296/LETTERS-MEMOS-TARIFFS/15-296_2017-03-20_NH_GRID_MOD_GRP_FINAL_RPT.PDF