STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS ENERGY FACILITY SITING BOARD

IN RE: INVENERGY THERMAL DEVELOPMENT:LLC's APPLICATION TO CONSTRUCT THE:DOCKET No. SB-2015-06CLEAR RIVER ENERGY CENTER INBURRILLVILLE, RHODE ISLAND:

OFFICE OF ENERGY RESOURCES' RESPONSES TO THE ENERGY FACILITY SITING BOARD'S FIRST SET OF DATA REQUESTS

- EFSB 1-1: Please define a peaker plant and a fast ramping plant. If they are different, please identify their differences.
- Response: The terms "peaker plant" and "fast ramping plant" are not defined in the context of the ISO-NE Transmission, Markets, and General Services Tariff ("ISO-NE Tariff"). See Section I.2.2, Definitions, of the ISO-NE Tariff, available here:

https://www.iso-ne.com/static-assets/documents/regulatory/tariff/sect_1/sect_i.pdf

In general terms, a peaker plant is a generation resource that is dispatched when the demand for electricity peaks, such as during weekday summer afternoons when the weather is very hot. Peaker plants have high variable operating costs, and therefore are typically only dispatched when base load and intermediate load resources are fully utilized. A fast ramping plant is a flexible generation resource that can respond quickly to dispatch instructions to increase or decrease output level. Some peaker plants may be fast ramping plants. Fast ramping plants may also include intermediate load resources that have flexible operating characteristics.

- EFSB 1-2: Of the 26 dual fuel power plants identified in Invenergy Thermal Development LLC's Response to the Town of Burrillville's Data Requests 27-22, please identify which of these plants are peaker plants and/or fast ramping plants.
- Response: Identifying which plants are peaker plants or fast ramping plants would require information on the performance characteristics of each plant, including heat rate, variable operation and maintenance ("VOM") costs, ramp rate, minimum down time, minimum run time, minimum operating level, etc. This information is considered commercially sensitive and not publicly available.
- EFSB 1-3: How many resources are capable of providing reserve products to the ISO New England Market, and what is the total capacity associated with these resources? How many resources are qualified as fast-start resources, and what is the total capacity associated with these resources? How does this supply compare to the demand for these resources over the past four Forward Reserve Market auctions? What, if any, trends exist in the annual cost of that market?

Response: OER's Advisory Opinion (at page 33) mentions two types of forward reserve products in the ISO New England market: Ten Minute Non-Spinning Reserves ("TMNSR"), which are provided by quick-start resources that can come up to load within ten minutes, and Thirty Minute Operating Reserves ("TMOR"), which are provided by flexible resources that can ramp up within 30 minutes. ISO New England has established procedures for a resource to demonstrate the quantity of capacity that it can offer as TMNSR and TMOR. These are termed the CLAIM10 and CLAIM30 capabilities, respectively. CLAIM10 and CLAIM30 values for individual resources are not publicly available, nor is the total capability for the region.

ISO New England establishes locational requirements for TMNSR and TMOR for each winter and summer period, and winter and summer Forward Reserve Market auctions are conducted to procure these resources. Aggregate values of the locational TMOR and TMNSR requirements and historical results for Forward Reserve Market auctions are summarized in ISO New England's annual markets reports. See Section 7.2 (pages 170-177) of "ISO New England's Internal Market Monitor 2016 Annual Markets Report," which can be found here:

https://www.iso-ne.com/staticassets/documents/2017/05/annual_markets_report_2016.pdf

The total TMNSR and TMOR supply offered, supply cleared, and the clearing prices, by zone, in the individual Forward Reserve Market auctions, including the four most recent ones can be found here:

https://www.iso-ne.com/isoexpress/web/reports/auctions/-/tree/auction-results-fr

- EFSB 1-4: How does the current capacity of resources capable of participating in the Regulation Market compare to the demand for regulation services? What, if any, trends exist in the annual cost of that market?
- Response: A discussion of the Regulation Market may be found in "ISO New England's Internal Market Monitor 2016 Annual Markets Report," referenced above, on pages 177-182. According to Figure 7-13 on page 181, there are slightly more than 1,600 MW of resources in ISO New England capable of providing regulation service. The total annual cost of the regulation market from 2012 to 2016 is provided in Figure 7-11 on page 179.

RESPONDENT: Ellen G. Cool, Levitan & Associates, Inc. Date: August 31, 2017

OFFICE OF ENERGY RESOURCES By its Attorney,

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Andrew S. Marcaccio, Esq. (#8168) Department of Administration Division of Legal Services One Capitol Hill, 4th Fl. Providence, RI 02908 Tel: 401.222.3417 Fax: 401.222.8244 Email: <u>Andrew.Marcaccio@doa.ri.gov</u>

CERTIFICATE OF SERVICE

I hereby certify that on August 31, 2017, I sent a copy of the foregoing to the service list for SB-2015-06.

and M