

April 20, 2016

Via Federal Express/Electronic Mail

Todd Anthony Bianco, EFSB Coordinator
RI Energy Facilities Siting Board
89 Jefferson Blvd.
Warwick, RI 02888

Re: Invenergy Thermal Development LLC's Application to Construct The Clear River
Energy Center In Burrillville, Rhode Island
Docket No.: SB-2015-06

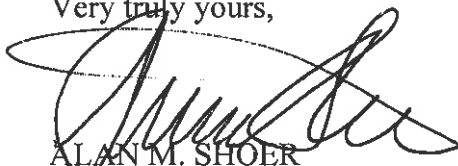
Dear Mr. Bianco:

On behalf of Invenergy Thermal Development LLC and the Clean River Energy Center Project, I enclose an original and (10) copies for filing with the Board the following in the above docket:

1. Invenergy Thermal Development LLC's Response to The Town of Burrillville's Second Set of Data Requests.

Please let me know if you have any questions.

Very truly yours,



ALAN M. SHOER
ashoer@apslaw.com

Enclosures

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
ENERGY FACILITY SITING BOARD

IN RE: Application of
Invenergy Thermal Development LLC's
Proposal for Clear River Energy Center

Docket No.: SB – 2015-06

**INVENERGY THERMAL DEVELOPMENT LLC'S RESPONSES TO
THE TOWN OF BURRILLVILLE'S SECOND SET OF DATA REQUESTS**

- 2-1: Table 1 on Page 7 of Appendix A ("Transient Operation Noise Level Evaluation for the Clear River Energy Center", Michael Theriault Acoustics, Inc., March 2016) contains the expected near field sound pressure levels at various points along the air cooled condenser (ACC) duct during steam turbine bypass. Could you please explain the source or derivation of the values specifically associated with the following sources:
- a. ACC Main Horizontal Ducts
 - b. ACC Riser Ducts
 - c. ACC Finger Ducts
 - d. HRH Steam Bypass Ducts
 - e. LP Steam Bypass Ducts

Invenergy Resp. 2-1: The source of values for the various ducts listed in Table 1 on Page 7 of Appendix A ("Transient Operation Noise Level Evaluation for the Clear River Energy Center", Michael Theriault Acoustics, Inc., March 2016) was based on a combination of:

- 1. Field measurements of ACC ducts at a similarly designed, combined-cycle combustion turbine energy center while in steam turbine bypass mode during startup operations; and
- 2. Manufacturer's noise level data for ACC duct radiated noise using low-noise bypass valve systems under specific start-up flow conditions for the equipment proposed at the site.

Respondent: Michael Theriault, Michael Theriault Acoustics, Inc.

Date: April 20, 2016

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2-2: Will the facility use a steam jet air ejector or vacuum pumps for condenser vacuum hogging during start-up?

Invenergy Resp. 2-2: The facility will utilize both vacuum pumps and steam jet air ejector (SJAE) technologies. Vacuum pumps, located inside a building, will operate during start up to create the initial vacuum and once the plant is operating the SJAE's will maintain condenser vacuum for normal operations. The vent flow from the SJAE's is directed to the SJAE condenser, (a shell and tube heat exchanger located inside the building) which collects and condenses the steam and which allows any air to be exhausted to the outside. The flow of vented air will be relatively small since this is primarily non-condensable gases (i.e., air) removed from the steam cycle during unit operation. The flow will vent to atmosphere through a silencer mitigated to a level sufficiently low so as to achieve design objectives.

Respondent: John Niland, Director, Business Development, Invenergy LLC
Michael Theriault, Michael Theriault Acoustics, Inc.

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2-3: Will the steam turbine drains tank discharge directly into the vacuum of the ACC duct to preserve demineralized water or will it vent to atmosphere?

Invenergy Resp. 2-3: The steam turbine drains tank will be vented to atmosphere, so as to avoid introduction of additional air into the ACC duct. There will be a small loss of steam from the tanks, which was accounted for in the plant's water balance. This atmospheric vent was included in the noise modelling and mitigated to a sufficiently low level as to comply with design objectives. Condensate that collects in this tank will be pumped to the condensate collection system.

Respondent: John Niland, Director, Business Development, Invenergy LLC
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2-4: Will either or both of the hot reheat (HRH) and low pressure (LP) bypasses join the ACC duct inside the turbine building or outside?

Invenergy Resp. 2-4: The HRH and LP bypass valves will be housed within the steam turbine building or in separate enclosures in order to minimize their off-site noise emissions. The interface between the HRH/LP bypass ducts and the ACC inlet duct is expected to be outside the steam turbine building, which is the configuration assumed in the noise model.

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2-5: What is the anticipated sound power level of each ACC fan? Is the make and model known at this point? If so, please identify the make and model.

Invenergy Resp. 2-5: ACC noise levels used in the model translate to a total sound power level of 112 dBA or to 50 dBA at 400 feet, (after accounting for wind wall shielding and fan directivity). Assuming an 18-cell arrangement, the PWL per fan is 99 dBA (0 degrees from vertical). The ACC is modeled as two separate area sources located at the expected height of the of the fan deck , (rather than modeled as individual fans). The EPC contractor will be responsible for procuring the ACC, which has not yet been purchased at this stage of project development. Thus, individual fan model information is not available.

Respondent: Michael Theriault, Michael Theriault Acoustics, Inc.

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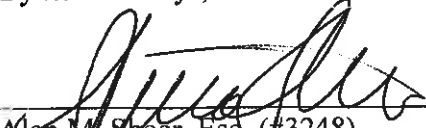
2-6: The noise modeling analysis suggests that the best sound level that can be realized at Receptor M1 during a normal start-up is 46 dBA. Does that mean that Invenergy believes that compliance with the overall 43 dBA Town Ordinance (neglecting the octave band component) cannot be achieved?

Invenergy Resp. 2-6: The original noise analysis considered start up a transient event not subject to the 43 dBA limit. As detailed in our March 2016 report, significant efforts were expended to achieve 46 dBA or less at nearby residences during start-up. We further confirm that 43 dBA at nearby residences can also be achieved during startup operations.

Respondent: John Niland, Director, Business Development, Invenergy LLC
Michael Theriault, Michael Theriault Acoustics, Inc.

Date: April 20, 2016

INVENERGY THERMAL ENERGY LLC
By its Attorneys,



Alan M. Shoer, Esq. (#3248)
Richard R. Beretta, Jr. Esq. (#4313)
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Tel: 401-274-7200
Fax: 401-751-0604
Dated: April 20, 2016

CERTIFICATE OF SERVICE

I hereby certify that on April 20, 2016, I delivered a true copy of the foregoing responses to the Energy Facilities Siting Board via electronic mail to the parties on the attached service list.