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August 30, 2016

#### Via Federal Express/Electronic Mail

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

#### Re: Invenergy Docket No. SB-2015-06

Dear Mr. Bianco:

On behalf of Invenergy Thermal Development LLC ("Invenergy"), enclosed please find an original and 10 copies of Invenergy's Supplemental Responses to the Rhode Island Department of Environmental Management's Date Requests, Nos. 3-23, 3-25, 3-28 and 3-29, along with accompanying exhibit.

Please let me know if you have any questions.

Very truly yours,

alan M. Shoer/mm

ALAN M. SHOER ashoer@apslaw.com

Enclosures

cc: Service List

### IN RE: INVENERGY THERMAL DEVELOPMENT LLC : APPLICATION TO CONSTRUCT AND : OPERATE THE CLEAR RIVER ENERGY : SB-2015-06 CENTER, BURRILLVILLE, RHODE ISLAND :

### INVENERGY THERMAL DEVELOPMENT LLC'S SUPPLEMENTAL RESPONSES TO THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT'S THIRD SET OF DATA REQUESTS NOS. 3-23, 3-25, 3-28 & 3-29

- 3-23 Has the applicant considered noise impacts (i.e., those brought in by the existing facility and those proposed to be added during both the lengthy construction period and post-construction operation) to area wildlife, including an assessment of the kind of impacts the expected average and episodic broadband and octave decibel levels will have on area-sensitive species?
- RESPONSE 3-23: The site of the proposed CREC facility is within a parcel on which a natural gas compressor station operates as required to maintain gas pressure in the natural gas pipeline system. As a result, wildlife on or near the property has been exposed to the on/off operation of the gas compressor station both during daytime and nighttime operation for many years. With the construction and operation of the CREC facility, wildlife on or near the property will be exposed to additional noise at similar levels to that which has been experienced by the wildlife over many years.

Most of the studies regarding noise impacts to wildlife that have been conducted focus on military aircraft overflights, and therefore involve much higher levels of noise, and that have a significant "startle effect" (i.e. a very quick onset). The CREC and existing gas compressor station noise levels are much lower in level, and while they do cycle on and off the onset of noise from the start-up of the CREC is relatively slow and has been significantly mitigated. Also, many of the wildlife noise impact studies found in the literature have focused on specific species in specific locations, and from sources such as traffic, large scale oil and gas field development, aircraft etc., and are therefore not directly relevant to the CREC situation.

### SUPPLEMENTAL<br/>RESPONSE:See alsoLetter from Michael Hankard, Hankard Environmental,<br/>Inc., to John Niland, Invenergy Thermal Development LLC, dated<br/>August 19, 2016, attached hereto.

<b>RESPONDENT:</b>	Mike Feinblatt, ESS Group, Inc.
	Mike Hankard, Hankard Environmental

DATE: August 30, 2016

# IN RE:INVENERGY THERMAL DEVELOPMENT LLC :<br/>APPLICATION TO CONSTRUCT AND :<br/>OPERATE THE CLEAR RIVER ENERGY :<br/>CENTER, BURRILLVILLE, RHODE ISLAND :SB-2015-06

### <u>INVENERGY THERMAL DEVELOPMENT LLC'S SUPPLEMENTAL RESPONSES TO</u> <u>THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT'S</u> <u>THIRD SET OF DATA REQUESTS NOS. 3-23, 3-25, 3-28 & 3-29</u>

3-25 What is the distance into the forest that the impacts from both plants do not contribute to an increased noise level? If the answer to this is greater than 300 feet, it may be more accurate to adjust the buffer used for disturbance to interior forest species/indirect impacts to forest habitat.
RESPONSE 3-25: The CREC will contribute to an increase in noise level at a distance greater than 300 feet into the forest. Siting of the CREC facility and setting of the identified buffer distances were not set based on impacts of noise on wildlife. *See* Response 3-23. Also, as described in the response to 3-27, significant investments are being made to reduce noise levels at nearby residences, and these measures will also reduce noise levels in the forest habitat areas near the project.

## SUPPLEMENTAL<br/>RESPONSE:See alsoLetter from Michael Hankard, Hankard Environmental,<br/>Inc., to John Niland, Invenergy Thermal Development LLC, dated<br/>August 19, 2016, attached hereto.

- RESPONDENT: Mike Feinblatt, ESS Group, Inc. Mike Hankard, Hankard Environmental
- DATE: August 30, 2016

### IN RE: INVENERGY THERMAL DEVELOPMENT LLC : APPLICATION TO CONSTRUCT AND : OPERATE THE CLEAR RIVER ENERGY : SB-2015-06 CENTER, BURRILLVILLE, RHODE ISLAND :

### <u>INVENERGY THERMAL DEVELOPMENT LLC'S SUPPLEMENTAL RESPONSES TO</u> <u>THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT'S</u> <u>THIRD SET OF DATA REQUESTS NOS. 3-23, 3-25, 3-28 & 3-29</u>

- 3-28 While the existing compressor facility is generally noisier than the proposed facility, any additional sound within 10 decibels of the existing source(s) will raise the total noise level from 1-3 decibels. Is this decibel addition "rule of thumb" specific to the human ear? Has the applicant considered studying the noise impacts of the existing facility on area wildlife? If yes, provide those studies.
- RESPONSE 3-28: The decibel "rule of thumb" is specific to the human ear. *See* Response 3-23 with regard to noise impacts on wildlife.

### SUPPLEMENTAL<br/>RESPONSE:See alsoLetter from Michael Hankard, Hankard Environmental,<br/>Inc., to John Niland, Invenergy Thermal Development LLC, dated<br/>August 19, 2016, attached hereto.

- RESPONDENT: Mike Feinblatt, ESS Group, Inc. Mike Hankard, Hankard Environmental
- DATE: August 30, 2016

# IN RE:INVENERGY THERMAL DEVELOPMENT LLC :<br/>APPLICATION TO CONSTRUCT AND :<br/>OPERATE THE CLEAR RIVER ENERGY :<br/>CENTER, BURRILLVILLE, RHODE ISLAND :SB-2015-06

### <u>INVENERGY THERMAL DEVELOPMENT LLC'S SUPPLEMENTAL RESPONSES TO</u> <u>THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT'S</u> <u>THIRD SET OF DATA REQUESTS NOS. 3-23, 3-25, 3-28 & 3-29</u>

- 3-29 The application indicates that Noise levels during Project construction are expected to be near or below current daytime ambient noise levels (LAEQ). Is this as measured at nearby Noise Sensitive Areas (NSAs)? What about on site and in immediately adjacent forested areas?
- RESPONSE 3-29: Yes, this statement is made based on levels expected at residences, not in the forest. We did not conduct existing measurements in the forest per se, other than the fact that the two sites along Jackson Schoolhouse Rd were, effectively, in the forest. In the forest, closer to the CREC, noise levels will be louder and may exceed existing daytime levels. Noise regulations are specific to human impacts and make no mention of or reference to wildlife impacts. *See* Response to 3-23.
- SUPPLEMENTAL<br/>RESPONSE:See also<br/>Letter from Michael Hankard, Hankard Environmental,<br/>Inc., to John Niland, Invenergy Thermal Development LLC, dated<br/>August 19, 2016, attached hereto.
- RESPONDENT: Mike Feinblatt, ESS Group, Inc. Mike Hankard, Hankard Environmental
- DATE: August 30, 2016

INVENERGY THERMAL DEVELOPMENT LLC By its Attorneys,

/s/Alan M. Shoer

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Dated: August 30, 2016

### **CERTIFICATE OF SERVICE**

I hereby certify that on August 30, 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.** 

/s/ Alan M. Shoer

SB-2015-06 Invenergy CREC Service List as of	2 08/26/2016

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August 19, 2016

John Niland Director, Business Development Invenergy LLC, One South Wacker Drive Chicago, IL 60606

### Re: Clear River Energy Center: Impact of Octave Band Noise Level Limits Waiver on Wildlife

John,

To my understanding, the Burrillville Town Planning Board is currently deciding on Invenergy's petition to waive the Town's octave band noise level requirements for the CREC. I further understand that, based on noise impact reports provided by the Project and on comments received from the Town's acoustical Consultant David Hessler, the Board's remaining consternation on the issue relates not to impacts to humans, but to wildlife.

I do not consider myself an expert on noise impacts to wildlife, but it has come up on many projects over the past 25 years or so. To respond to these requests, as with this one, I have read a handful of reports that synthesize the current literature on the subject. This literature comes more from wildlife biologists than it does from acoustical consultants like myself. The literature generally divides the subject into impacts to birds, mammals, endangered species, farm animals, and other species such as fish and reptiles. Given the study area I will limit my discussion to birds and mammals. The literature I have read does not speak in terms of absolute levels, and the phrases "data lacking" and "needs more study" are frequent.

One of the primary impacts of industrial noise on birds, as reported, is interference with communication. Fortunately, this takes place in the upper regions of the (human) audible frequency spectrum (above 1,000 Hz), and is a range that the CREC will produces relatively low levels of noise emission. Figures 1 and 2, attached, show the predicted baseload noise level spectrum compared to existing levels for the two analysis locations on Jackson Schoolhouse Road. Notice how, above about 500 Hz, CREC noise emissions are either near or below existing noise levels. Understand that there is variation at play here not captured by my general analysis. On the one hand there may be birds that use lower frequencies. On the other, our analysis did not take into account the mitigating effect of trees on CREC noise. Also, note that the CREC is not predicted to exceed the Town's octave band limits from 500 Hz and above.

For mammals, much of the research I am aware of involves high levels of noise from aircraft, including fast on-set noise from military flights. The CREC and existing gas compressor station noise levels are much lower in level and do not have an intense startle effect. Many of these studies have focused on specific species in specific locations, and from sources such as highways, recreation, large scale oil and gas field development, aircraft etc., and are therefore not directly relevant to the CREC situation.



The site of the proposed CREC facility is within an industrially zoned parcel on next to the site of a natural gas compressor station that operates continuously as required to maintain gas pressure needed to assure the natural gas supply is uninterrupted. As a result, wildlife on or near the property has been exposed to the operation of the gas compressor station both during daytime and nighttime operation for many years. The proposed noise levels for the CREC facility are lower than those of the compressor station, and as such wildlife on or near the property will be exposed to noise at similar levels to that which has been experienced by the wildlife over many years.

In conclusion, the Town's relatively low noise level limit of 43 dBA has forced the CREC to be designed with a host of significant noise reduction measures, for both start-up and baseload operation. These measures also lower CREC noise levels in the adjacent forest, in some cases and at some frequencies to levels below that which exist today either from natural sources or the existing compressor station. Waiver of compliance with the Town's octave band requirements effects only the lower portion of the frequency spectrum, and will have little if any effect on sound levels as they pertain to impacts to wildlife. The low-level, broadband, relatively consistent noise emissions from the CREC are not consistent with the high-level, tonal, or quick on-set sources of noise that is the subject of much of the literature.

If you have any questions or would like additional information, please call.

Sincerely,

Michael Hanh

Michael Hankard, INCE and ASA Member Principal Acoustical Consultant



