

August 23, 2016

Burrillville Town Council
105 Harrisville Main St.
Harrisville, RI 02830

Reference: L-2024-082316-0

Subject: Invenergy Clear River Energy Center
Noise – Summary of Pros and Cons

Dear Council Members:

We have been instructed to summarize our opinions on the proposed Invenergy Clear River Energy Center (CREC) Project in terms of its pros and cons within the specific area of acoustics and the potential for community noise impacts during facility construction and operation.

To put it succinctly, it is not possible for any such project to have a positive noise impact on its surroundings. So there can be no pros. It is only a matter of limiting or eliminating potentially negative impacts.

In that regard it is our opinion that Invenergy has taken every reasonable step that could be desired to ensure that noise from the plant will meet the Town's unusually demanding Ordinance noise limit of 43 dBA at the nearest residences during all normal operating modes, including start-up and shutdown, when noise from this particular type of plant can easily be dramatically louder than during steady-state operation. The potential for increased noise during start-up has been heavily emphasized and publicized over the last few months to the extent that we now believe Invenergy is giving the issue the attention it deserves and will, if the project proceeds, develop a design that successfully attenuates this noise. Consequently, during normal operation noise from the facility is expected to be reasonably low in the community. That is not to say the plant will be inaudible at all times, but rather that its sound emissions are likely to be at a level that is normally regarded as benign and acceptable in most rural communities. However, given the overwhelming community opposition to this project, it would not be surprising if there were a greater than average

sensitivity to plant noise, meaning that more complaints could occur than would otherwise be predicted by statistical averages.

We do not anticipate any adverse community noise impacts specifically from low frequency noise from this plant. This is a trait common to all combined cycle plants irrespective of whether noise controls are implemented for its suppression or not. Low frequency turbine exhaust noise is automatically attenuated as it passes through the boiler, or heat recovery steam generator (HRSG), whether the plant operator desires it or not. Moderate low frequency noise from other plant sources, such as the air cooled condenser fans, will not be significant or problematic in any way at the nearest residences due to the distances involved.

Beyond normal operation, there is a distinct likelihood of disturbance from plant construction noise, although this is nothing unusual and is true of virtually any similar project. The buffer distances from the site to the nearest residences in this case are fairly large relative to most other projects, but are certainly not large enough to render noise from on-site construction equipment and activities inaudible in the community. Additionally, significant noise at homes along roadways leading to the site from numerous trucks, some extremely large, delivering plant components, some extremely large, is unavoidable.

Towards the end of construction all of the steam piping must be cleared of weld slag and debris by flushing them with high pressure steam until a metal target plate is no longer pitted by the impacts of solids; a process referred to as steam blows. As the name implies it can be a noisy process; however, special temporary silencers are normally rented by the construction company to minimize the noise impact on neighbors. Given the clearly unfavorable stance of the community towards the project, we would anticipate that Invenergy's EPC contractor would want to use the best steam blow silencer they can get. Nevertheless, some fairly significant noise during this process, which might take a week or two, can be expected.

Finally, there is also a possibility of intermittent community disturbance from noise generated during emergency trips, when high pressure steam must be suddenly vented to avoid damage to the plant. Again, this is nothing unusual or specific to this project but simply an inherent negative at any power station. Although it is standard practice to employ silencers on these vents, the emitted sound levels are still rather loud compared to normal operations. Once the facility has been operational for some time these events are extremely rare any may be dismissed as an oddity, but it has been our experience that trips and steam releases are fairly frequent during the early phases of commissioning and initial operation before smooth and reliable operating conditions are established.

In summary, there never are any pros with regard to a power plant's noise emissions and it is only a matter of how well the negatives are controlled. In this case, we believe Invenergy intends to take all the appropriate steps that could be desired to minimize facility noise during all phases of normal operation. However, some essentially inevitable but temporary negative noise impacts are likely during the construction phase of the project and intermittently during emergency trips.



Of course, please let me know if you have any questions or need anything further on this matter.

Sincerely,

A handwritten signature in blue ink, appearing to read 'D.M. Hessler', with a long horizontal flourish extending to the right.

David M. Hessler, P.E., INCE
Principal Consultant
Hessler Associates, Inc.