Community Noise Summary Sheet
Grays Harbor Energy Center Proposed Units 3 & 4 Expansion

The information below was provided at the request of EFSEC by ICF. ICF, under contract to EFSEC, has conducted an independent evaluation of noise issues at the Grays Harbor Energy Project. Information in this summary sheet is for discussion purposes only and does not necessarily reflect the views of EFSEC.

Item 1. What Are the Potential Impacts to Community Noise?

The existing facility (Units 1 & 2) and the proposed expansion (Units 3 & 4) must be designed to satisfy the state-wide Environmental Noise Regulation under Chapter 173-60 Washington Administrative Code (WAC) (the “WAC noise limits”). The existing facility was designed and constructed using industry-standard noise control systems. Predictive modeling done for the existing facility’s license application predicted that noise levels at the nearest homes would be slightly below the nighttime WAC limits. Post-startup field tests conducted by GHE’s consultant confirmed the actual noise levels at the nearest houses that occur when Units 1 & 2 are operating under stable conditions are well below the allowable WAC limits.

However, EFSEC has received frequent noise complaints from several local residents, beginning during facility construction and continuing today. Therefore, it appears the expansion of Units 3 & 4 could potentially cause exceedances of the WAC noise limits during the following types of plant activity:

- Temporary, intermittent events during facility construction (e.g., occasional steam blows)
- Intermittent, routine plant startup cycles
- Intermittent pressure relief valve events

In addition, occasional events occurring when the plant is not operating under stable conditions could potentially cause community noise annoyance due to the nature of the noise even if the average noise levels are less than the WAC noise limits, for example:

- Steady noise levels well above normal background, which could be clearly noticeable even if the levels are well within the WAC noise limits.
- Abrupt onset of temporary noise increases
- Plant noise with an unpleasant pitch, or exhibiting a noticeable pure tone.
- Intermittent low-frequency noise that can rattle windows
Item 2. What Noise Mitigation Measures Does ICF Propose to Minimize the Potential Community Noise Impacts?

Grays Harbor Energy has designed Units 3 & 4 so its stable noise levels would be well within the WAC noise limits at the closest homes. However, based on the frequent noise complaints that have arisen during construction and operation of Units 1 & 2, it appears occasional community noise impacts could occur when the plant is operating under non-steady state conditions. The following mitigation measures are proposed to minimize those potential impacts.

N-1. Project-Specific Noise Limits. ICF recommends project-specific noise limits that apply at the closest dwellings, and which are slightly lower than the state-wide WAC Environmental Noise Regulation. The project-specific community noise limits would be based partly on the beneficially low noise levels that have been measured within the community during periods when the plant is operating under stable conditions, and will be based partly on technology-driven considerations for best practicable control technology.

N-2. Noise Control Study. ICF recommends that GHE conduct in-plant noise surveys and a noise control study to identify noise control methods for Units 1, 2, 3 and 4 that are acoustically feasible, practical to operate and maintain, and reasonable on a cost basis. The Mitigated Determination of Nonsignificance issued by EFSEC in February 2010 proposed GHE conduct a noise mitigation study with the construction of Units 3 and 4, but ICF recommends that the study for Units 1 and 2 be implemented immediately. The field measurements and noise abatement study would focus on the loudest equipment that generates noise during construction (e.g., steam blows), routine steady operation (e.g., continuous turbine operation), intermittent events (e.g., condensate blowdown systems), and non-steady process equipment (e.g., pressure relief valves). ICF recommends that GHE prioritize the cost-effectiveness of each candidate noise control measure based on its acoustical effectiveness, reliability, and life-cycle cost. GHE would then retrofit all high-priority cost-effective control systems on Units 1 & 2, and would be required to design and install all high-priority cost-effective control systems on the Units 3 & 4 expansion.

N-3. Continuous Noise Monitoring at Plant Property Line. ICF recommends that GHE install and operate one or more continuous noise monitors at strategic locations at the facility boundary. Use of property-line monitoring will reduce the amount of interference that would otherwise be caused by non-project sources (e.g., barking dogs, lawn mowers, etc.). The continuous noise readings at each property line monitor should be displayed at the plant’s control room and digitally archived. ICF recommends that EFSEC work with GHE’s consultants to establish allowable fence line noise limits that correspond to the project-specific community noise limits that apply at the closest dwellings (see mitigation measure N-1).

N-4. Daily Handheld Noise Surveys. ICF recommends that GHE implement periodic handheld noise monitoring surveys at the closest homes and at key in-plant locations.

N-5. Contingency Measures. ICF recommends that GHE initiate contingency measures to promptly identify the cause of any measured exceedance of the allowable fence line noise limits, and to promptly initiate corrective measures. GHE would be required to report all such events to EFSEC.

N-6. Noise Compliance Reports. ICF recommends that GHE submit periodic noise monitoring compliance reports to EFSEC, documenting compliance with the noise monitoring requirements.
Item 3. What is the Justification for Our Proposed Mitigation Measures?

ICF believes the mitigation measures recommended in this summary sheet will provide a reliable and cost-effective way to reduce noise emissions from Units 1& 2 and the proposed expansion, and to require GHE to immediately identify and correct any short-term problems.

Jim Wilder is employed as a sound engineer at ICF International and is under contract to EFSEC to provide noise consulting services.

Additional Information

More specific information about the Project is available on EFSEC’s Internet site at: http://www.efsec.wa.gov/Satsop_Amend%205.shtml, or you can call Jim LaSpina, EFSEC Siting Specialist at (360) 956-2047, or email: jim.laspina@commerce.wa.gov.

The complete ICF Noise Report for Grays Harbor Energy Center is posted at: http://www.efsec.wa.gov/Satsop_Amend%205.shtml