

Environmental Noise Control for New Energy Facilities

The noise control efforts for new energy facilities are usually directed toward compliance with the regulatory criteria required to obtain a plant operating license. The greatest probability for success, at the least cost, is achieved by incorporating noise control early in the plant design process. Also, successful retrofits may apply the latest noise control technology.

Often, the best approach begins with an analysis of the projected acoustic impact of the proposed plant. This analysis may be based on a thorough baseline (background) noise survey of the proposed site and the surrounding community. Consideration of the noise signatures of the equipment to be installed helps to determine if the proposed plant will meet noise emission goals. An analytical model can be employed to make design improvements, or to develop specifications for noise control hardware, if necessary.

At the time of plant startup operation, acoustic performance testing is conducted to determine if noise criteria are met. If a thorough design effort is realized, then the need for remedial noise control measures will be held to a minimum. Finally, at the conclusion of an effective noise program, measured noise data are then documented to show compliance in a report for the regulatory authorities.

Results and findings were documented, as appropriate, with written reports and/or presentations to government authorities, such as the Federal Energy Regulatory Commission (FERC), design drawings, construction specifications, and graphical and auditory design and test data. Designs for the projects in industrial and environmental noise control were produced through the application of measurement and analysis. Many of these designs were verified by post-installation testing. Representative power projects are as follows:

Williams – Transcontinental Gas Pipe Line – Metering & Compressor Stations (40 to 100 MW)
Sandersville, Mississippi
Sweetwater, Alabama
Billingsley, Alabama
Wadley, Alabama
Stockbridge, Georgia
Comer, Georgia
Moore, South Carolina
Grover, North Carolina
Mooresville, North Carolina
Unionville, Virginia
Manassas, Virginia
Ellicott City, Maryland
Delta, Pennsylvania
Frazer, Pennsylvania
Bear Creek, Pennsylvania
Salladasburg, Pennsylvania

Selected Natural Gas Transmission and Electric Power Generation projects

Columbia Gas Transmission Corporation – Gas Compressor Station (9 MW) - Fallston, MD
Kinder Morgan – Gas Compressor Station (20 MW) – Devers, Texas

Select Energy – Rand-Whitney Cogeneration (17 MW) – Montville, Connecticut
AES – Ocean Link/ Express (LNG & 1200 MW) – Cat Cay, Bahamas & Ft. Lauderdale, Florida
Berkshire Power – Combined cycle electric plant (285 MW) – Agawam, Massachusetts
Noresco/Dynegy – Pan Am Thermal Generating (100 MW) - La Chorrera, Republic of Panama
Connecticut Natural Gas – Hartford Steam Company (20 MW) – Hartford, Connecticut

Gas Recovery Services – Landfill gas to electric power (1.6 to 30 MW)

- East Bridgewater, Massachusetts
- Chicopee, Massachusetts
- Halifax, Massachusetts
- Lyon, Michigan
- Marshall, Michigan
- Northville, Michigan
- South Barrington, Illinois
- Hanover Park, Illinois
- Inver Grove Heights, Minnesota