

Overcoming Emergency Generator Noise & Vibration Control Challenges

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Designing for installation of an emergency electric power generator is often one of the most challenging assignments for a Mechanical / Electrical engineering firm. Often, the generator is needed at a facility that presents numerous obstacles to an “off-the-shelf” solution. To accommodate the connection to the facility’s utilities, the given mounting location may be restricted in size, surrounded by other structures, and / or require installation of a custom enclosure.

One specific challenge on almost every generator installation is the need to control noise radiated by the generator, engine mufflers, and cooling apparatus. If the generator is to be located within an occupied building, there is also likely to be an additional concern for control of vibrations created by the generator that can travel through the building structure. While most M/E firms have some experience in dealing with noise and vibration issues, **the unique nature of each generator installation is likely to present problems that the firm has not dealt with on prior jobs.**

Spectra Tech is a consulting firm that specializes in acoustics and noise / vibration control. Our staff has extensive experience in achieving targeted acoustical performance for emergency generator installations. **Our services complement the work of other members of the project design team.** We contribute to the design by:

- recommending noise and vibration control design goals for the project (often after reviewing site zoning and land usage restrictions)
- performing onsite sound tests to document existing noise & vibration levels and identify potential noise & vibration control challenges
- predicting generator & apparatus noise and vibration levels requiring mitigation
- assisting in the optimization of the site layout, position and orientation of the generator and related apparatus
- assisting in the selection and specification of the generators, mufflers, silencers, vibration mounts, and cooling apparatus
- providing guidance on the design of enclosures and / or site barrier walls
- performing onsite tests after completion of work to verify achievement of design goals

Our staff also has extensive experience in correcting noise and vibration problems caused by emergency generators and related equipment, in a variety of situations. If only we could have been involved in the initial design! **Retrofitting necessary design elements after initial construction and facility occupancy adds considerable expense that could have been avoided by addressing the issues in the original design.**

Virtually all of your projects can benefit by having Spectra Tech serve on your project design teams. We can assist you to eliminate uncertainties related to control of noise and vibration caused by any sort of mechanical or electrical equipment. **Why not give Spectra Tech a chance to prove our value to you and the facility owner?**

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