

Case Study: Outdoor Genset Noise Control

Industrial Enclosure Ventilation Noise Control

PROJECT DESCRIPTION

A large power plant was receiving noise complaints from multiple, nearby receivers when two large outdoor genset packages were run during normal equipment test cycles. The overall sound levels were significantly above the surrounding ambient noise levels, and low frequency sound quality issues were present. For example, the overall dBC sound levels were more than 10 dB above the corresponding overall dBA. The overall sound levels from two generators running needed to be reduced while very little additional static pressure was allowed. The enclosure’s available air ventilation was limited and the existing duct fittings on the air openings were fairly old. An overall noise reduction target of 10 to 15 dB was set as the project goal.



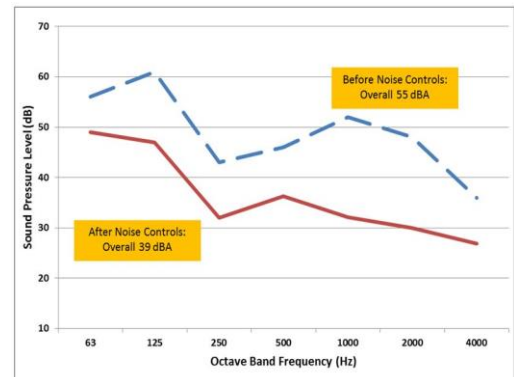
Before



After

ENGINEERED SOLUTION

VAW Systems conducted a detailed field noise study and environmental noise analysis. Sound pressure level and sound intensity measurements were made at the site. The measurements and the related acoustic calculations were based on the applicable ANSI and ISO standards. The analysis included equipment noise emissions and background noise levels near the facility’s property line. Using VAW Systems’ Comsil© software, a compact, energy efficient solution was supplied by VAW Systems with nearly zero added static pressure loss. The solution included close-coupled, wall mounted elbow silencers, a vertical bank of rectangular silencers on a radiator opening, and a large T-elbow intake silencer system. The resulting sound levels at the nearby receptors met the project noise reduction targets. All silencers were designed to fit the equipment's existing footprint with no major retrofit work required in the field, minimizing both the time required to implement the solution and the installation costs for the facility.



Sound Levels at Critical Nearby Receptor

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