

MARK C. STORM, INCE BD. CERT.
Senior Noise Control Engineer

Areas of Expertise	Noise Analysis, Control and Mitigation
Years of Experience	17
URS	2
Other Firms	15
Education	B.S., Aeronautics & Astronautics, Massachusetts Institute of Technology, 1991
Overview	<p>Mr. Storm’s career in mechanical systems noise and vibration control and architectural acoustics spans over fifteen continuous years, in various roles with established equipment manufacturers, consulting firms, and startup ventures. Some manifestations of his field and market-proven skills and experience include the following specialties.</p> <p>Environmental Noise Environmental noise experience includes the evaluation of noise impacts from property developments, manufacturing, industrial and commercial facilities upon sensitive receptors such as residential neighbors, schools, hospitals and wildlife. Services in this area include measurement and prediction programs, evaluation of existing noise regulations and legislation, evaluation of potential mitigation measures and options, and participation in public meetings.</p> <p>Mechanical Noise and Vibration Analysis and Control Noise analysis and sound attenuation projects include various facilities, consumer products and industrial equipment ranging from semiconductor “wafer fabs” to motorcycle exhaust mufflers to multi-stage centrifugal compressors. Services in mechanical noise and vibration control include measurement surveys, detailed model analysis and design recommendations.</p> <p>Architectural Acoustics Sound isolation and architectural acoustics experience and available services include assessment of building interior background sound levels, development of appropriate noise criteria for occupied spaces, and recommendations for speech intelligibility and acoustic privacy.</p>
Project Experience	<p>Whistling Ridge Energy Project Led tasks to conduct existing ambient sound measurement, predictive construction and operation noise analysis, impact assessment and mitigation recommendations for the noise section of an Environmental Health document in support of a permit submitted to the Washington EFSEC. Proposed Project is a 125 megawatt wind energy facility to be located in Skamania County near Stevenson, WA.</p> <p>Sacramento Municipal Utility District – Solano Wind Project – Phase III</p>

Modeled noise propagation from eighty-four 3 megawatt wind turbine generators (WTGs) towards rural residential receptors in Solano County. Study included consideration of neighboring existing WTG installations and ambient wind noise.

Ausra – Carrizo Energy Solar Farm

Lead team to conduct measurement, modeling, analysis, impact assessment and mitigation recommendation activities for the Noise section of an Application For Certification submitted to the California Energy Commission. Represented noise technical resource for URS and participated in multiple public meetings and workshops. Proposed Project is a 150 megawatt solar-to-steam power generation plant planned for the Carrizo Plains area in San Luis Obispo County, CA.

Stirling Energy Systems – Solar Two

Directed conduct of measurement, modeling, analysis, impact assessment and mitigation recommendation activities for the Noise section of an Application For Certification submitted to the California Energy Commission. Utilizing solar energy to heat multiple Stirling engines for the production of electricity, the proposed Project is a 600 megawatt site located in Imperial County, CA.

Southwestern Power Group II, LLC – Mt. Signal Solar

Supervised measurement, modeling, analysis, impact assessment and mitigation recommendation activities for the preparation of a noise impact study for submission to Imperial County, CA. The proposed Project is a 49 megawatt facility comprised of solar-to-steam and biomass-to-steam systems that should allow continual, 24/7 power generation.

Spinnaker Energy, Inc. – San Joaquin Solar 1 & 2

Led tasks related to the conduct of existing ambient sound measurement, predictive construction and operation noise modeling, impact assessment and mitigation recommendation activities for the Noise section of an Application For Certification submitted to the California Energy Commission. The proposed Project, located in Fresno County, CA, will deliver up to 106 megawatts from a pair of solar-to-steam and biomass-to-steam systems.

Ausra – Solstice

Lead team to conduct measurement, modeling, analysis, impact assessment and mitigation recommendation activities for an Exhibit I as part of a Certificate of Environmental Compatibility for the Arizona Corporation Commission. Utilizing solar-to-steam technology, the proposed Project involves construction and operation of a 240 megawatt power generation plant planned for a site near Yuma, AZ.

Wind Implementation Monitoring Program – Phase IV

Represented URS in public workshop hosted by California’s Riverside County Planning Department to address potential environmental noise impacts.

Bluegrass Motorsports

Predicted outdoor noise from a private racetrack and nearby Interstate highway in order to assess potential community impacts. The study’s usage of a combined Cadna/A and TNM noise model helped enable the client to quickly address

neighbor concerns and obtain permitting.

Three Rivers Quarry

Conducted noise analysis for expansion of existing dual-pit flagstone quarry operation that included prediction of noise impacts on residential areas and wildlife (with focus on aviary raptor species nesting sites) based upon fixed and non-stationary noise sources (e.g., blasting).

Clarke Energy USA

Provided acoustical predictions and complete component-level ventilation system design for prefabricated metal buildings that housed multiple natural-gas burning 2 megawatt generators near sound-sensitive property lines.

SourceGas – Oil Springs

Conducted existing ambient noise measurement and predictive operation noise analysis for a new proposed compressor station as part of Federal Energy Regulatory Commission (FERC) Resource Report 9 requirements.

Imperial Irrigation District – Niland Gas Turbine Plant

Conducted post-construction noise measurement and analysis of peaker plant operations to demonstrate compliance with California Energy Commission (CEC) conditions.

Professional Societies

Institute of Noise Control Engineering (Board-Certified member, reg. 08004)
Society of Automotive Engineers (member)

Publications

- U.S. Patent No. 6,571,910 – Method and Apparatus for Improved Noise Attenuation in a Dissipative Internal Combustion Engine Exhaust Muffler
- European Patent No. 1356193
- “Prediction of Sintered Fibrous Metal Liner Influence on Muffler Sound Attenuation Performance and Noise Emission for Single-Cylinder Motorcycle Engine Exhaust”, NCAD2008-73022, Proceedings of NCAD2008, NoiseCon2008-ASME NCAD, Dearborn, MI.

Languages

English