DOCKETED

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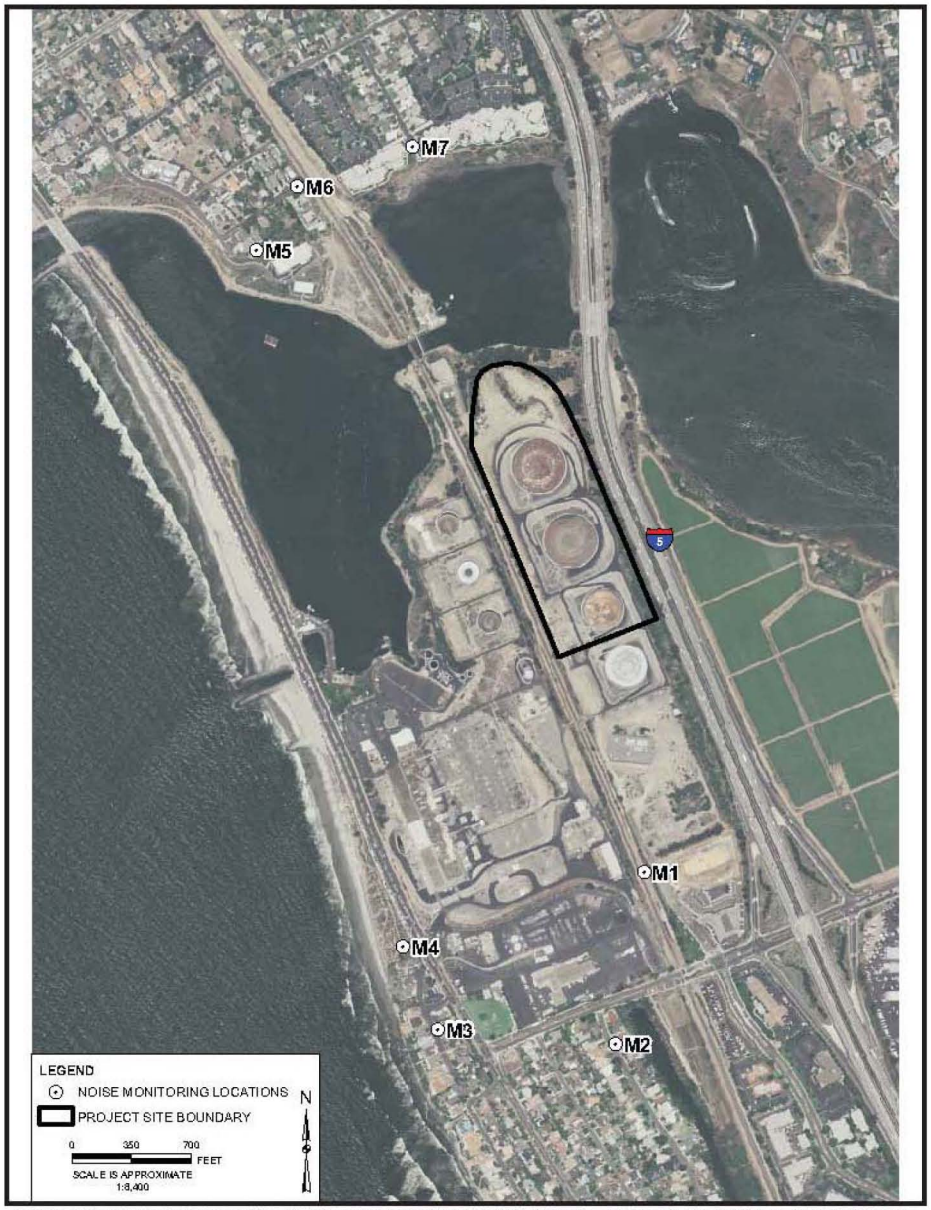
NOISE

NOISE AND VIBRATION - FIGURE 1
Carlsbad Energy Center Project - Noise Monitoring Locations



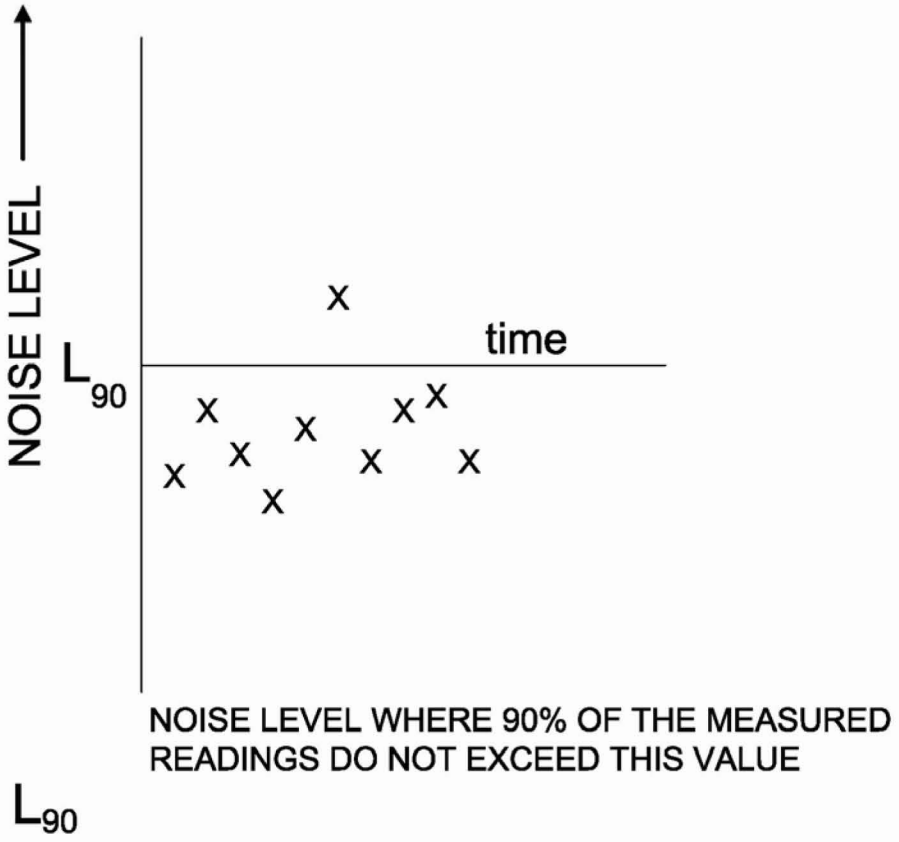
CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, NOVEMBER 2009
SOURCE: 07- AFC -6: Figure 5.7-3

NOISE AND VIBRATION

- Transmission of sound energy through solids (ground and structures), liquids (water) and vapor (air)
- Measured in decibels (dB) where noise intensity is scaled in relation to human threshold of hearing
- Adjustment for reduced human sensitivity at low and high frequencies called A-weighted decibels (dBA)
- Frequency measured in Hz (cycles per second), the rate or "pulse" of pressure relative to barometric conditions

NOISE CONVENTIONS

- Designation of noise: "L" for loudness
- Sound pressure level (L_{SPL}): Measured noise at a prescribed distance from its source
- Sound power level (L_w): Generated noise from mechanical equipment, measured at its source
- Reception of noise measured for periodic effect (L_{10}, L_{50}, L_{eq}, L_{90}, L_{max}) and daily average effect (L_{dn} for day-night. DNL for day-night level. CNEL for Community Noise Equivalent Level)



NOISE LEVEL WHERE 90% OF THE MEASURED READINGS DO NOT EXCEED THIS VALUE

L_{90}

LORS COMPLIANCE

RULES OF COMPARISON

- Determine the applicable LORS (Laws, Ordinances, Regulations and Standards).
- Measure *existing* noise levels to establish a noise baseline.
- Require a reduction in noise level to below allowable limits.

CONSTRUCTION ACTIVITIES

- Estimate daytime demolition and construction noise. Combine with baseline noise conditions. Compare with daytime LORS limits or measured baseline conditions, whichever is greater.
- Identify unavoidable nighttime construction activities. Combine with nighttime baseline conditions. Compare with nighttime LORS or measured baseline.

LORS COMPLIANCE

OPERATIONAL ACTIVITIES

- Model operational plant noise and combine with existing daytime and nighttime baseline conditions.

CUMULATIVE CONDITIONS

- Identify proposed projects of similar type and within the project's area of influence.
- Verify that LORS limits are met.

CEQA GUIDELINES

RULES OF COMPARISON

- Apply CEQA (California Environmental Quality Act) incremental criteria to determine significance

  Less than 5 dB always insignificant

  5 dB to 9 dB subject to circumstances

  10 dB or greater always significant

- Require noise reduction or stipulate Condition of Compliance to reduce noise increment below threshold of significance

CONSTRUCTION ACTIVITIES

- Identify daytime and nighttime construction activities. Combine with baseline conditions and apply CEQA rules of comparison

CEQA GUIDELINES

OPERATIONAL CONDITIONS

- Add the operational plant model to the baseline measurement and compare against the existing baseline only
- Apply CEQA rules of comparison.

CONDITIONS OF COMPLIANCE

- **Formulate Conditions of Compliance to provide mitigation to countermand incremental noise impact**