Are NAC Compatible With Ldn?

Ramon E. Nugent, P.E.
Acentech Incorporated – Thousand Oaks, California
Phone: (805) 379-3449
E-mail: rnugent@acentech.com

The Federal Interagency Committee on Urban Noise (FICUN) was established to bring consistency between Federal Agencies on how to assess when noise impacts occur. By 1980 FICUN issued "Guidelines for Considering Noise in Land Use Planning and Control." Agencies that were signature participants included EPA, DOT, HUD, DOD, and VA. These guidelines established Ldn 65 and below as *compatible* for residential land use. It also described areas where the Ldn is up to 70 dB as *marginally compatible* if the residence was designed to provide 25-dB reduction. These compatibility guidelines are commonly used to set the threshold for assessing impacts and for developing mitigation.

However, in accordance with the FHWA noise abatement regulations (23 CFR 772), highway projects use worst-hour noise of 67 dBA as the threshold for mitigation for residential areas. These regulations describe Noise Abatement Criteria (NAC) and specify that noise abatement must be considered (to be eligible for Federal funding) when a project results in substantial noise increase or when noise levels approach or exceed NAC.

This paper will show that traffic noise impacts are not being adequately mitigated using 23 CFR 772. 24-hour noise monitoring results related to a Type II barrier design projects for interstate and state highways in Los Angeles County, CA are presented. These measurements show that:

- The Ldn is consistently greater than the worst-hour noise levels.
- The FHWA threshold of impact set at 67 dB for NAC B results in Ldn that exceed both FICUN recommendations and accepted land use compatibility standards for residential properties.

A relationship between worst hour Leq and Ldn will be presented.