

Workers' Exposure to Noise inside Complex Acoustic Environments in Canada - A Qualitative Analysis

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Identification of the frequencies that are particularly harmful to workers and prognosis of noise effects caused by different frequencies is urgently needed for the design of abatement measures to protect workers operating in complex acoustic environments like power plants and in oil and gas industries.

Precision real-time analyzers Class I and Class 0 were used in lieu of ordinary Leq or SPL measurements to measure occupational noise exposure at various power plants in Canada. One-third Octave Band frequency data associated with high levels of occupational noise were analyzed and presented in this paper to demonstrate the inherent character of noise at workstations inside power plants.

I am convinced that noise control in industrial facilities where workers are overwhelmed with high doses of noise - in particular unwanted qualities such as low-frequency and sharp tonal and impulsive qualities - should incorporate the results of research done on the effects of noise on humans in order to provide efficient noise abatement. Along this line of thought, information contained in the large body of research and studies related to annoyance, impairment of speech intelligibility, impairment of cognitive performance; sleep disturbances, effects on mood and performance could enhance the noise abatement design. Noise Control and abatement of complex noisy environments are no longer the responsibility of noise control engineers alone, but a collective task that could be undertaken by many professionals from all the fields related to health, safety, hearing and hearing conservation.