

Programmatic Mitigation: Noise

RECORD OF DECISION AND RESOURCE MANAGEMENT PLAN AMENDMENTS FOR THE POWDER RIVER BASIN OIL AND GAS PROJECT

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Appendix A.5.14. Noise

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Two measurements commonly used to relate the time-varying quality of environmental noise to its known effects on people are the equivalent sound level (Leq) and the average day/night noise level (Ldn). The Leq is an A-weighted sound level containing the same sound energy as the instantaneous sound levels measured over a specific time period. Noise levels are perceived differently, depending on the length of exposure and the time of day. The Ldn takes into account the duration and time the noise is encountered. An additional 10 decibels on the A-weighted scale (dBA) are added to late night and early morning (10:00 p.m. to 7:00 a.m.) noise exposure levels to account for people's greater sensitivity to sound during the nighttime hours. After adjustment, the 24 hourly values are averaged to determine the Ldn.

Existing literature concludes an Ldn of 55 dBA is equivalent to a continuous noise level of 48.6 dBA for facilities that operate at a constant level of noise (FERC 2003).

Noise can be reduced by construction of obstacles in the direct path from the noise source to a receiver or by increasing the distance between a CBM facility and an existing noise-sensitive receptor.