

## Noise Impact Assessments for ERCB Noise Control Directive 038 – Assessing Cumulative Noise Impacts

In February 2007 the Alberta ERCB released a new version of the noise control directive (Directive 038). This new Directive contained some changes that effected licensees when preparing Noise Impact Assessments (NIAs). Now that Directive 038 has been in force for two years, we have found the most common issues facing licensees have been:

- In **remote areas**, licensees must design their facilities to meet 40 dBA at 1500m. Prior to D038, this was only a recommendation. The result has been regulatory delays for licensees unaware of this new requirement.
- NIAs must include the **ambient sound level** as part of the predicted sound level. The ambient plus the facility sound level must be within the Permissible Sound Level (PSL). This has effectively reduced the design target noise level from 40 dBA to 38 dBA for a typical rural area and has increased expenditures on noise control measures.
- NIA's must now meet more prescriptive **noise modeling and reporting requirements**. Some licensees that conduct in-house noise assessments have experienced regulatory delays when the new requirements were not properly followed. The new D038 has clearly defined when "**desktop**" estimations can be used for an NIA and when computer noise modeling must be performed.
- Licensees must consider the **cumulative noise impact** from all energy industry facilities. This usually means that the NIA must quantify all other "significant" noise producers within 1500 metres of the proposed facility. Many licensees have experienced delays in their licence application as a result of not considering other nearby facilities.

### Assessing Noise Impacts from Multiple Facilities

When existing facilities potentially impact the noise environment, they must be quantified in an NIA in order to avoid licensing delays. The most straight forward method to quantify existing facilities is field reconnaissance, whereby fence line noise measurements are gathered for each potentially noisy facility and their measured noise emissions included in the noise model. This method quantifies each existing facility as a single noise source and usually provides sufficient detail to prepare an NIA. Also, it will identify where further study is needed (if any). If the reconnaissance finds that the cumulative sound levels may be over the PSL, then more detailed study will be required to assess the most cost effective noise control strategy. In most cases, there are no other significant facilities in the area and, as long as this is confirmed in the NIA, then delays should be avoided. Often, minor noise sources are identified in the area such as pump jacks or wellhead compression. In these cases, theoretical assessments are desired to avoid costs associated with field noise measurements. As the density of oil and gas facilities increases, more care will be needed to assess cumulative noise impacts.

**Upcoming Event:** Nev Hirock will be presenting a ½ day course for Progress Seminars on Feb. 26, 2009. This seminar topic:

**"Innovative Acoustical Engineering for Oil and Gas Facilities"**

Check out [www.progress-seminars.com](http://www.progress-seminars.com) or call (403) 467-9040 for more information.