THE CURRENT STATE OF NOISE REQUIREMENTS FOR FEDERAL ENVIRONMENTAL ASSESSMENT PURPOSES

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1. INTRODUCTION

The "National Guidelines for Environmental Noise Control" are intended to establish a common national basis for noise impact assessment. However, there are several provincial noise guidelines in place in Canada, which widely vary in their requirements. As a result, the type of information made available in Environmental Assessments varies widely from project to project.

Historically, noise is given very little emphasis in the federal environmental assessment process. Of the over 4000 projects which fell under CEAA review from January 2003 to August 2004, (ranging from joint panels to screening submissions), only eight projects listed noise as keyword in the Canadian Environmental Assessment Registry (CEAR) (www.ceaa-acee.gc.ca/050/index_e.cfm).

2. PROVINCIAL GUIDELINES

Each province and territory has different levels of noise requirements, ranging from none at all to requirements for highly detailed assessments. Table 1 summarizes the provincial and territorial noise guidelines for road transportation noise. Quebec guidelines are in flux, and will be discussed in detail in the paper "Noise impact assessment procedures in Quebec", presented as part of this session.

Table 1. Guidelines for Road Transportation Noise

Prov./Terr.	Comments	Descriptors
British Columbia	Ministry of Transportation, 55 dBA objective, mitigation varies depending on pre- and post-project noise levels, with 65 dBA threshold	L_{eq} (24 hr)
Ontario	MTO QST-A1, MOE/MTO Joint Protocol. 55 dBA objective, mitigation based on 5 dB change	L_{eq} (24 hr) L_{eq} (16 hr) L_{eq} (8 hr)

Of the provinces/territories reviewed, only BC and Ontario have set provincial noise guidelines for road transportation noise. Impacts within other provinces are either addressed on a case-by-case basis, are dealt with through municipal bylaws, or are not evaluated.

Table 2 presents provincial and territorial guidelines for "stationary" fixed facilities (e.g., industrial plants, etc.).

Table 2. Noise Guidelines for Fixed Facilities

Prov./Terr.	Comments	Descriptors
Alberta	Energy sector only, under Alta EUB ID-99-08 guidelines.	L_{eq} (15 hr) L_{eq} (9 hr)
Manitoba	"Guidelines for Sound Pollution" set by Manitoba Conservation. Maximum desirable and acceptable levels are set out.	L_{dn} L_{eq} (1hr)
Nova Scotia	"Guidelines for Environmental Noise Measurement and Assessment"	L_{eq} (1 hr)
Northwest Territories	Draft energy sector guidelines, adopting Alta. EUB approaches	L_{eq} (15 hr) L_{eq} (9 hr)
Ontario	"NPC" series of noise guidelines, enforced by Ministry of the Environment	L_{eq} (1 hr)

Prince Edward Island and New Brunswick list noise as an air contaminant, but do not require noise impacts to be assessed prior to construction. In the presence of complaints, these jurisdictions generally refer to the Ontario noise guidelines for guidance.

Alberta regulates noise only from energy-related facilities (e.g., oil and gas plants, pipelines, power plants, etc.) through the Energy Utilities Board (EUB). Other industrial land uses are not regulated. A draft Air Quality Code of Practice for the Northwest Territories (NWT) adopts the EUB approach. The EUB guidelines are unique, in that they consider cumulative noise impacts from all energy related facilities in an area, rather than impacts on a facility-by-facility basis.

Table 3 presents the various fixed facility limits

Table 3. Fixed Facility Noise Guideline Limits

Prov./Terr.	Comment
Alberta and NWT	• Cumulative impacts of all energy-related facilities, receptor based • Permissible Sound Level is ambient level + 5 dB + other adjustments as applicable • In remote areas, suggested limit of 40 dBA at 1.5 km distance, where no noise sensitive receptors exist
Manitoba	• Facility under review only, receptor based • Maximum acceptable level in residential area of L_{dn} of 60 dBA, L_{eq} (1 hr) of 60 dBA daytime, 50 dBA night-time • Desirable levels are 5 dB lower than maximum acceptable.
Nova Scotia	• Facility under review only, receptor based • 65 dBA daytime, 60 dBA evening, 55 dBA night-time
Ontario	• Facility under review only, receptor based • NPC-205 Urban and Semi-Rural S must not exceed greater of ambient or 50 dBA daytime, 47/45 evening, 45 night-time • NPC-232 Rural S must not exceed greater of ambient or 45 dBA daytime, 40 dBA evening and night-time

Remote and/or rural limits are generally consistent (~40 dBA during the night, 45 dBA during the day). The guidelines are all receptor based, rather than property line or distance from activity. However, the Alberta EUB guidelines recognize that even in the absence of permanent residences/receptors, uncontrolled noise mitigation should not occur. A suggested limit of 40 dBA at a 1.5 km distance is provided.

3. ISSUES WITH EA REVIEW PROCESS

A review of EAs conducted in the Northwest Territories are illustrative of some of the variation in noise assessments, and the resulting difficulties in determining environmental impacts.

There have been four recent EA studies conducted in the NWT, including:

- the Mackenzie Gas Project (pipeline)
- the Devon Beaufort Sea exploratory drilling (oil)
- the Ekati Diamond Project (mining)
- the Diavik Diamond Project (mining)

The first two listed, Devon Beaufort and the Mackenzie Gas Project, have conducted extensive environmental noise impact assessments as part of their comprehensive studies. These assessments included predictions of off-site noise levels from facility operations, construction, and infrastructure (e.g., roadways, aircraft). In comparison, detailed noise assessments were not conducted for either the Ekati mine and Diavik mine projects. Instead, only vague motherhood statements concerning potential noise impacts were provided by the proponents.

A similar diamond mine project in northern Ontario, the DeBeers Victor Mine, is currently undergoing a comprehensive study review. The DeBeers mine site is in a similar remote rural environment as the Ekati and Diavik sites. There are similar concerns with respect to the potential for adverse environmental noise impacts on wildlife and traditional activities of native peoples. However, a detailed noise impact assessment report was required for this facility, using Ontario NPC-232 guidelines.

4. INFORMATION REQUIREMENTS

When required, environmental noise impact assessments generally examine the following activities and provide the following information:

Construction, Decommissioning

- Identification of numbers and types of equipment, duration, etc. Identification of construction code of practice to reduce potential noise impacts.

Operations

- Identification of receptors of concern, existing ambient noise levels, predicted levels at receptors, noise contours, required noise mitigation measures.

5. DISCUSSION

As seen in the above examples, the variations in provincial / territorial noise guidelines means that projects with similar potential to cause adverse effects are dealt with in widely different manners depending on the location and type of facility. Of particular concern are noise impacts within remote rural areas, particularly in the far north. Land uses in the north are significantly different than in the south, and strict receptor-based approach may not be adequate to address potential impacts. We advocate the adoption of a common review process and national standard for assessing noise impacts in remote areas, similar to the Alberta EUB approach of:

- 45 dBA at 1.5 km for daytime L_{eq} (15 hr), and
- 40 dBA at 1.5 km for night-time L_{eq} (9 hr).

The guideline would apply to the facility under review only, and would be applicable to all fixed industrial activities, not just energy sector work, We feel that this would adequately limit the adverse "noise footprint" of facilities, while not requiring undue amounts of noise mitigation by project proponents, and would help to "level the playing field" in the EA review process.