

ENVIRONMENT NOISE IMPACT ASSESSMENT IN QUEBEC

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In Québec, there are currently no regulations on noise control. This, however, does not impede the occurrence of legal sanctions against excessive noise, which is considered an environmental contaminant. The Loi sur la qualité de l'environnement does prohibit any kind of environmental pollution.

Moreover, authorization certificates have to be issued by the Ministre de l'Environnement du Québec. To obtain such certificates, a project deemed to have a noise impact must submit a noise impact assessment proving their acceptability according to the applicable noise criteria.

In Quebec, more specifically, there are regulations and by-laws that set noise limitations, i.e.:

- Regulation respecting pits and quarries;
- Regulation respecting hot-mix asphalt plants;
- An Instruction Note applicable to stationary sources;
- An Instruction applicable to all road projects developed by the ministère des Transports du Québec);
- Criteria and methodologies applicable to construction activities;
- Over forty municipal by-laws on noise nuisances or prescribing general or specific noise limits for noise sources such as heat pumps.

Generally, the Instruction Note du ministère de l'Environnement and the By-law by of the ministère des Transports are the most commonly used.

The Note d'instruction 98-01 on community noise issued in 1998 by the ministère de l'Environnement du Québec sets up the maximum noise level from stationary sources according to the land use, as :

« The maximum noise level allowed from stationary sources shall be lower at any time and at any noise receiving point, than the highest of the following levels:

1. Maximum permitted noise levels according to the zoning category

Zoning	Night (dBA)	Day (dBA)
I	40	45
II	45	50
III	50	55
IV	70	70

ZONING CATEGORIES

Sensitive zones

- I. Land intended for single-family detached or semi-detached dwellings, schools, hospitals and other educational, health or extended care facilities. Land used as existing dwelling in an agricultural zone.
- II. Land intended for multiple dwelling units, mobile parks, institutions or camping sites.
- III. Land intended for commercial purposes or recreational parks. However, the night noise level established shall only apply within the limits of residential sites property. In any other cases, the maximum day noise level shall apply overnight.

Non-sensitive zones

- IV. Land zoned for industrial or agricultural use. However, for the land used as dwelling in an industrial zone and built up in compliance with the municipal by-laws in force at the construction time, the criteria are 50 dBA at night and 55 dBA during the day.

2. Noise level equal to the ambient noise level measured at the same point during the shut-down of the company operations." (Our translation. Original in French)@

In the early 1980s, the Service de l'environnement du ministère des Transports established a noise impact assessment grid for road noise. Their directive is used in case of complaints, modifications or implementation of a new road corridor in order to assess the noise impact projected according to the current noise environment. Considering the widespread and intensity of projected impacts, mitigation measures are put into place so that any residual impacts to which residents are exposed are

acceptable. Generally, level $Leq_{24h}=55$ dBA and below are acceptable. A corrective approach should be considered when the external noise level is equal or above Leq_{24h} 65 dBA.

The Direction des politiques du secteur industriel is currently considering the revision of the Instruction Note 98-01 and the noise generated by construction sites for any project submitted to environmental impact assessment procedure.

Among the orientations under current consideration are the following:

- The Selection of the sensitive receptor(s) that are the most exposed to noise;
- Noise measurement conditions;
- The Methodology of ambient noise measurement for the sector;
- Objectives of noise levels on construction sites in residential areas:
 - Leq_{12h} = ambient noise or at 55 dBA minimum between 7 a.m. and 7 p.m.
 - Leq_h = ambient noise or at 45 dBA minimum between 7 p.m. and 7 a.m.;
- Surveillance and monitoring program including any

justification of noise excess occurred;

- Noise level objectives for ambient noise:
 - Increased protection for specific sensitive noise-saturated environments;
 - LDEN index use to represent any nuisances on a 24 hour basis (Day-Evening-Night);
- Noise assessment method: ambient noise and noise from an identified source considering any corrective actions (impact noise, tone component or low frequency, etc.).

Laws on environmental noise have barely changed over the past 20 years even if the needs have evolved and if the population seems more demanding than ever.

Revisions to applicable standards are already on their way in a number of countries and we can only wish that they will consider technology progress on measurement instruments and the improved noise control techniques while keeping regulation applicability easy.

Technical knowledge in acoustics has evolved over the past 20 years, environmental, economic and social integration will also be a challenge.

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