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## Occupational Noise and Hearing Loss

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### Introduction

Noise-induced hearing loss occurs gradually over time. It is rarely painful and can take years of continuous exposure to develop. Workers may experience greater hearing loss if high noise levels are combined with other workplace exposures, e.g. exposure to solvents, heavy metals, vibration and extreme heat.

The effects of hearing loss extend beyond the workplace. Every part of a worker's life can be affected such as family and social relationships. Permanent hearing loss is a high price to pay for a preventable disease.

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### Background

The noise provisions of O. Reg. 851, Industrial Establishments have not been amended since they were first introduced in the early 1970's.

On July 1, 2007, Ontario Regulation 565/06 introduced significant changes in the workplace regulatory framework for the prevention of hearing loss. The new regulation introduced a time-weighted average exposure limit of 85 dBA for worker exposure to both steady state and fluctuating noise levels similar to the time-weighted average exposure values for chemical agents.

The Workplace Safety and Insurance Boards estimates that \$100 million in compensation cost have been paid out in the last decade for hearing loss.

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### Applicability of New Noise Regulations

The new noise regulation applies to every worksite in Ontario that is covered under the following regulations:

- Industrial Establishments, O. Reg. 851
  - Oil and Gas - Offshore, O. Reg. 855
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### Key Points

All employers will be required to put into practice all measures practical to protect workers from hazardous noise levels and **to ensure that no worker is exposed to no more than 85 dBA  $L_{ex,8}$** . The 85 dBA  $L_{ex,8}$  is the equivalent sound exposure, e.g. the permissible time-weighted average noise exposure, that is averaged over an 8-hour shift.

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## Employer Obligations

Ontario Regulation 565/06 requires employers to:

- Assess worker exposure to both steady state and fluctuating noise levels.
  - Identify tasks and areas where noise levels exceeding 85 dBA
  - Post clearly visible warning signs at every entrance to area where the sound level exceeds 85 dBA.
  - Provide noise controls that include:
    - engineering controls e.g. at the source, or along the path
    - work practices, e.g. rotation of employees, training, education
    - personal protective equipment, e.g. hearing protection
  - Protect workers from exposure to a sound level greater than the limit without requiring the use of personal protective equipment, except under specific conditions, e.g. engineering controls are not obtainable, not reasonable or practical to adopt, ineffective due a temporary breakdown or because of an emergency.
  - Document why engineering controls are not practical or reasonable based on their effectiveness, cost, technical feasibility or implications for equipment use, repair and maintenance.
  - Develop and implement a hearing protection program where hearing protective devices (HPDs) are used to control exposures
  - Provide a training program on the proper selection, use and care of HPDs; limitations of HPDs, effects of noise on hearing, etc.
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## How can LEHDER Assist?

LEHDER's services with respect to compliance with O. Reg. 565/05 include:

- Conduct personal noise dosimetry to assess worker exposure for compliance to the new 85 dBA  $L_{ex,8}$  limit.
  - Perform noise surveys and noise spectrum analysis to identify and prioritize areas for noise abatement.
  - Prepare noise survey maps to identify hearing protection areas and areas where noise levels exceed 85 dBA.
  - Recommend control measures to mitigate risks via engineering controls, work practices and procedures, and personal protective equipment.
  - Develop new and/or review existing hearing conservation programs.
  - Develop and deliver site-specific training programs on hearing loss and hearing protective devices (HPDs).
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**LEHDER Environmental Services**  
*Excellence in Industrial Air Quality Services*

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**Questions?**

For further information or questions concerning Occupational Noise and Hearing Loss, please contact:

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**LEHDER Capabilities**

LEHDER capabilities in Industrial Hygiene include:

- Health hazard assessments of new and existing processes and products
  - Designated substances assessments
  - Hazardous building materials assessments
  - Indoor air quality assessments, including mould
  - Personal exposure assessment and monitoring to chemical and physical agents
  - Hazard control programs
  - Health and Safety program development and support
  - Site specific health and safety training program
  - Audit Industrial Hygiene programs
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**About LEHDER**

LEHDER is one of the largest Air Quality Management consulting companies in Canada. Our team of consulting professionals is built around our core strength in industrial environmental, health and safety management. LEHDER recognizes our client's need to make decisions that provide for operational flexibility while meeting regulatory, economic and social requirements.

Visit our web pages at [www.lehder.com](http://www.lehder.com)

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