

Hearing Conservation & Noise Protection Policy



This Model Policy is based on Alberta OHS requirements but can be adapted for any other jurisdiction.

1. PURPOSE

In recognition that continuous exposure to high levels of noise can result in hearing loss or damage, ABC Company has adopted this Hearing Conservation and Noise Protection Policy to protect workers from these hazards and ensure compliance with the requirements of Part 16 of the *Alberta Occupational Health and Safety Code* ("Code"), as well as the *Occupational Health and Safety Act* ("Act"), *Occupational Health and Safety Regulation* ("Regulation"), the ABC Company Occupational Health and Safety Program ("Safety Program"), any ABC Company Noise Management Program ("Noise Management Program") in effect, and other applicable requirements and standards.

2. DEFINITIONS

For purposes of this Policy:

- **"Abnormal Audiogram"** means an Audiogram that indicates:
 - The threshold in either ear is more than 25 dB at 500, 1000, or 2000 Hz OR
 - The threshold in either ear is more than 60 dB at 3000, 4000, or 6000 Hz OR
 - There is one-sided hearing loss with the difference in hearing threshold level between the

better and the poorer ear exceeding the average of 30 dB at 3000, 4000, and 6000 Hz

- **“Abnormal Shift”** means a threshold shift, in either ear, of 15 dB at two consecutive test frequencies from 1000 Hz up to and including 6000 Hz when compared to the baseline test
- **“Audiometer”** means a device meeting the specifications for an audiometer set out in ANSI S3.6-2004, Specification for Audiometers
- **“Audiometric Technician”** means a person who has passed an audiometric technician course approved by the Alberta Director of Medical Services, or who has been approved by the Director of Medical Services as having the equivalent of an approved audiometric technician course and who, in either case, has passed a prequalification exam when requested to do so by the Director of Medical Services
- **“Competent”** when used to refer to a person, means the person is adequately qualified, suitably trained, and sufficiently experienced to perform work without supervision or a minimal degree of supervision
- **“3 Decibel Exchange Rate”** means that when the sound energy doubles, the decibel level increases by three
- **“dBA”** means a measure of sound level in decibels as measured using a reference sound pressure of 20 micropascals when measured on the “A”-weighting network of a sound level meter
- **“Hearing Protection”** means a personal protective device designed to reduce the level of sound reaching the eardrum
- **“Hz”** means Hertz, a unit of frequency of electrical vibrations equal to one cycle per second
- **“Lex”** means the level of a worker’s total exposure to noise in dBA, averaged over the entire work day and adjusted to an equivalent 8 hour exposure measured in accordance with Section 216 of the Code and based on a 3 decibel exchange rate

- **“Noise”** means sound energy at a work site
- **“PPE”** means personal protective equipment
- **“Reasonably Practicable”** means a standard used to determine whether a specific safety measure is appropriate and viable for use by ABC Company to control a specific noise hazard at its workplace applied by ABC Company management on a case-by-case basis and which involves determination of:
 - **“Reasonableness,”** an evaluation that weighs factors such as degree of risk to workers, nature of the hazard, length and frequency of exposure, number of workers exposed, and severity of consequences the hazard can result in; and
 - **Practicability,”** an evaluation of whether a particular method of controlling the noise hazard is technologically feasible, affordable, cost-effective for the particular hazard, suited to the circumstances of the workplace, or otherwise viable.
 - To be deemed not “reasonably practicable,” a noise control measure must be more than simply inconvenient or costly but impossible to adopt or possible to implement only by investing time, energy, money, and other resources that are disproportionate to the safety benefits the measure would provide.

3. POLICY STATEMENT

ABC Company will ensure that all reasonably practicable measures are used to reduce the noise to which workers are exposed in areas of the work site where workers may be present and that worker’s exposure to noise does not exceed the safe occupational exposure limit to noise, i.e., noise that exceeds either:

- The following noise exposure limits set out in Schedule 3, Table 1 of the Code (and the expanded version of the

Table in the OHS Code Explanation Guide)

Exposure Level (dBA)	Duration of Exposure
82	16 hours
83	12 hours, 41 minutes
84	10 hours, 4 minutes
85	8 hours
86	6.3 hours
87	5 hours
88	4 hours
89	3.2 hours
90	2.5 hours
91	2 hours
92	1.6 hours
93	1.3 hours
94	1 hour
95	48 minutes
96	38 minutes
97	30 minutes
98	24 minutes
99	19 minutes
100	15 minutes
101	12 minutes
102	9 minutes
103	8 minutes
104	6 minutes

105	5 minutes
106	4 minutes
107	3 minutes
108	2 minutes
109	2 minutes
110	1 minute
111	1 minute
112	56 seconds
113	45 seconds
114	35 seconds
115 or more	0 amount of time

OR

- 85 dBA Lex

4. WORKERS THIS POLICY IS INTENDED TO PROTECT

The intent of this Policy is to ensure that **all workers** engaged to work at ABC Company work sites who are or may be exposed to hazardous levels of noise are properly protected regardless of who pays or employs those workers, including:

- Full- or part-time workers employed by ABC Company;
- Temporary employees placed by an outside agency to work at the site;
- Contract labourers engaged to perform work at the site;
- Volunteers who work at the site for free; and
- Workers employed by prime contractors, contractors, and subcontractors to perform work at the site under a contract with ABC Company.

5. ROLES & RESPONSIBILITIES

5.1. ABC Company

ABC Company owners, corporate officers and directors, upper managers, and others who may be defined as an “employer” under the Act are responsible for overall implementation of this Policy, including ensuring that:

- The resources necessary to implement this Policy effectively are provided
- All reasonably practicable measures are taken to keep workers’ exposure to noise within the limits specified in Section 3 of this Policy
- The noise exposure assessment required by this Policy is carried out and appropriately reviewed
- Workers are allowed to participate in the noise exposure assessment and the selection of hazard controls either directly or through their workplace Joint Health and Safety Committee or Health and Safety Representative
- Where workers are exposed to excessive noise, a Noise Management Program required by this Policy is created and effectively implemented
- Workers exposed to noise hazards:
 - Are provided and properly use the required hearing protection equipment
 - Receive the necessary safety information and training
 - Receive at ABC Company’s expense, the audiometric testing to which they’re entitled under Section 223 of the Code and this Policy
 - Receive credit for time at work for the time they spend getting tested
- This Policy and the Code of Practice is applied to Prime Contractors, contractors, and subcontractors hired to work at ABC Company work sites to perform work involving exposure to excessive noise
- This Policy is appropriately reviewed

5.2. Site Manager/Safety Coordinator

The site Manager, Safety Coordinator, or other person that ABC

Company designates as being in charge of safety at the workplace will be thoroughly familiar with and oversee implementation of this Policy, including ensuring that:

- A proper noise exposure assessment is carried out by a competent person in accordance with this Policy
- Workers are allowed to participate in noise exposure assessment and the selection of noise controls either directly or through their workplace Joint Health and Safety Committee or Health and Safety Representative
- Where the assessment indicates the existence of hazardous noise levels, i.e., exposure above the safe levels specified in Section 3 of this Policy:
 - All reasonably practicable measures are taken to protect exposed workers
 - A Noise Management Program is created and implemented at the site
 - Required hearing protection is properly selected, furnished to workers, used, inspected, and maintained
 - Each piece of required equipment meets legally required standards for that particular item
 - Workers are notified of the noise hazards to which they're exposed and receive the appropriate safety training to protect themselves from those hazards including but not limited to how to properly use hearing protection
 - Exposed workers receive the audiometric testing at ABC Company's expense, to which they're entitled
- Prime Contractors, contractors, and subcontractors hired to work at ABC Company work sites are notified of excessive noise hazards to which their workers are or may be exposed at the site and required to follow the terms of this Policy and applicable Noise Management Program (or one developed by a Prime Contractor for the work that provides at least equivalent protection)
- The records required by this Policy and Noise Management

- Program are properly kept and retained
- This Policy is appropriately reviewed

5.3. Supervisors

Supervisors, lead-hands, foremen, and other persons in charge of work operations involving exposure are responsible for properly carrying out the measures set out in this Policy and Noise Management Program to protect workers from noise, including ensuring that:

- Workers exposed to noise hazards are notified of those hazards and the hearing protection equipment necessary to protect them
- Workers receive training in the proper use, limitations, maintenance, and storage of the hearing protection equipment they are required to use, including, without limitation, how to ensure a proper fit
- Workers are notified of their rights to receive audiometric testing at ABC Company's expense
- The safe work procedures required to limit workers' exposure to excessive noise are properly carried out
- Workers are held accountable for complying with this Policy and Noise Management Program, including where necessary via the imposition of discipline for serious infractions
- This Policy and the Noise Management Program are properly applied to workers of Prime Contractors, contractors, and subcontractors hired to work at ABC Company work sites who are or may be exposed to excessive noise
- This Policy is appropriately reviewed

5.4. Workers

Workers exposed to excessive noise will cooperate with ABC Company in its efforts to implement this Policy by:

- Attending, paying attention to, and applying the safety

training provided under this Policy and the Noise Management Program

- Properly using and caring for the hearing protection they're required to use
- Making sure such hearing protection equipment fits properly and is properly inspected
- Getting the audiometric tests to which they are entitled
- Furnishing the medical history information requested by an audiometric technician when required by this Policy
- Reporting any noise hazards, hearing protection equipment defects, or symptoms of hearing damage to their supervisor

5.5. Audiometric Technician

The audiometric technician who administers the audiometric tests provided for under this Policy will ensure such tests are carried out properly and in compliance with the Policy by:

- Consulting with the physician, audiologist, or occupational health nurse designated by ABC Company
- Ensuring that testing methods and devices meet all requirements, including but not limited to for permissible background noise set out in this Policy
- Keeping the required audiometric testing log book
- Properly notifying the worker and designated physician, audiologist, or occupational health nurse when testing indicates an abnormal audiogram or abnormal shift
- Keeping the worker's health information private

5.6. Workplace Safety Committee/Safety Representative

The workplace Joint Health and Safety Committee or Health and Safety Representative, will:

- Participate in the noise exposure assessment if requested
- Provide input into the selection of controls appropriate to protect workers from hazards identified in the noise

exposure assessment

- Provide input into the development of any required Noise Management Program
- Consider the effectiveness of noise control measures and hearing protection equipment as part of the routine monthly workplace inspection
- Issue recommendations for improving noise protection
- Participate in the investigation of incidents or complaints of hearing damage
- Participate in the review of this Policy, the noise exposure assessment, and the Noise Management Program

5.6. Visitors

Visitors to ABC Company workplaces will refrain from entering parts of the work site that contain noise hazards or potential noise hazards unless they are ready, willing, and able to properly use the required hearing protection equipment.

6. NOISE EXPOSURE ASSESSMENT

6.1. Conducting of Noise Exposure Assessment

ABC Company will designate a competent person, i.e., an industrial hygienist, audiologist, or other professional with appropriate training, to perform a noise exposure assessment where workers are or may be exposed to noise at ABC Company work sites above the safe occupational exposure limits referred to in Section 3 of this Policy. To perform the noise exposure assessment, the competent person will measure noise in accordance with CSA Z107.56-06, Procedures for the Measurement of Occupational Noise Exposure. The person who measures noise exposure at a work site will use:

- A sound level meter that meets the requirements for a Type 2 instrument set out in ANSI S1.4-1983 (R2006), Specification for Sound Level Meters OR
- A noise dosimeter that meets the requirements for a Type 2 instrument set out in ANSI S1.25-1991 (R1997),

Specification for Noise Dosimeters, and which is set at:

- A criterion level of 85 dBA with a 3 dB exchange rate AND
- A threshold level at or below 80 dBA or “off” AND
- Slow response
 - OR
- An integrating sound level meter that meets the requirements of i. ANSI S1.43-1997, Specifications for Integrating Averaging Sound Level Meters, or ii. IEC 61672-1 (2002), Electroacoustics – Sound Level Meters, Part 1: Specifications, and Part 2: Pattern Evaluation Tests OR
- Equipment approved by an Alberta Director of Occupational Hygiene

6.2. Interpretation of Noise Exposure Assessment

ABC Company will ensure that the competent person who performs the noise exposure assessment or another competent person, i.e., an industrial hygienist, audiologist, or other professional with appropriate training, interprets the data from the assessment

6.3. Updating of Noise Exposure Assessment

ABC Company will ensure that the noise exposure assessment is updated if a change in equipment or process affects the noise level or length of time the worker is exposed to noise or in response to other indications that raise concerns about whether it's accurate or up to date, including but not limited to worker complaints or reports of symptoms associated with hearing damage

6.4. Records of Noise Exposure Measurements

ABC Company will ensure that the results of noise exposure measurements are recorded and include:

- The dates of measurements AND

- The workers or occupations evaluated AND
- The type of measuring equipment used AND
- The sound level readings measured AND
- The work location evaluated

Copies of the results of the noise exposure assessment will be made available upon request to:

- Affected workers, either directly or via the workplace Joint Health and Safety Committee or Health and Safety Representative AND
- Alberta government Occupational Health and Safety inspectors and officials

ABC Company will retain the record of the noise exposure assessment for as long as it continues to operate in the province of Alberta

7. CONTROL OF NOISE HAZARDS

7.1. Noise Management Program

As required by Section 221 of the Code, where the noise exposure assessment shows that workers are exposed to excessive noise at the work site, ABC Company will create and implement a Noise Management Program that includes:

- A plan to educate workers about the hazards of exposure to excessive noise and train them in the correct use of control measures and hearing protection AND
- The methods and procedures to be used when measuring or monitoring worker exposure to noise AND
- The posting of suitable warning signs in any work area where the noise level exceeds 85 dBA AND
- The methods of noise control to be used AND
- The selection, use, and maintenance of hearing protection devices to be worn by workers AND
- The requirements for audiometric testing and maintenance of test records AND

- An annual report for exposed workers that addresses:
 - The effectiveness of the education and training plan AND
 - The need for further noise measurement AND
 - The adequacy of noise control measures

Workers subject to noise management must cooperate with ABC Company in implementing the Noise Management Program/

7.2. Selection of Controls—General Approach

As required by Section 9 of the Act, ABC Company will use the following methods to control noise hazards:

- First preference will be given to using engineering controls to eliminate or reduce the noise hazards to acceptable levels
- Where engineering controls are not effective or reasonably practicable to eliminate noise hazards, administrative or work controls will be used to reduce it to acceptable levels
- Where administrative controls are not effective or reasonably to reduce noise hazards to acceptable levels, PPE and hearing protection equipment will be used to control noise hazards

7.3. Engineering Controls

Where reasonably practicable and effective, ABC Company will use one or more of the following types of engineering controls to eliminate or reduce noise hazards:

- Substitution, i.e., replacing noisy equipment, machinery, or processes with quieter ones
- Modification, i.e., changing the way noisy equipment, machinery, or process operates so it makes less noise
- Isolation, i.e., isolating workers from areas of the work site that contain noise hazards
- Maintaining noisy equipment or machinery so that it

makes less noise

As required by Section 217 of the Code, ABC Company will ensure that the following are designed and constructed in such a way that the continuous noise levels generated remain below 85 dBA or as low as reasonably practicable:

- New work sites AND
- Significant physical alterations, renovations, or repairs to existing work sites or areas AND
- Work processes introduced to the work site or work area AND
- Significant equipment introduced to the work site or work area

7.4. Administrative Controls

Where reasonably practicable and effective, ABC Company will use administrative controls such as changes to work schedules to limit how long workers are exposed to noise.

7.5. Hearing Protection Equipment

Where it is not reasonably practicable or effective to use engineering controls and/or administrative controls to eliminate or reduce noise hazards to acceptable levels, ABC Company will provide hearing protection to any workers exposed to excessive noise. Such hearing protection will:

- Meet the requirements of CSA Z94.2-02, Hearing Protection Devices – Performance, Selection, Care, and Use AND
- Be of the appropriate class and grade as set out in Table 2 of Schedule 3 of the Code:

Maximum Equivalent Noise Level (dBA Lex)	CSA Class of Hearing Protection	CSA Grade of Hearing Protection
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≤ 90	C, B, or A	1,2, 3, or 4
≤ 95	B or A	2, 3, or 4
≤ 100	A	3 or 4
≤ 105	A	4
≤ 110	A earplug + A or B earmuff	3 or 4 earplug + 2, 3, or 4 earmuff
≥ 110	A earplug + A or B earmuff and limited exposure time to keep sound reaching the eardrum below 85 dBA Lex	3 or 4 earplug + 2, 3, or 4 earmuff and limited exposure time to keep sound reaching the eardrum below 85 dBA Lex

In selecting hearing protection, ABC Company will also consider the following factors:

- The physical characteristics of the workers who will be wearing the equipment AND
- The equipment's compatibility with other safety equipment AND
- Temperature, humidity, air pressure, and other relevant workplace conditions AND
- How easy the equipment is to use and handle AND
- How the equipment affects the worker's ability to communicate

As indicated in the above Table 2, workers exposed to noise greater than 105 dBA Lex must use dual hearing protection—both earplugs and earmuffs.

Because hearing protection is less effective for noise greater than 110 dBA Lex, where workers are exposed to noise greater than 110 dBA Lex, dual hearing protection must be used *and* the time of exposure reduced to ensure that sound reaching the worker's eardrum is below 85 dBA Lex. The required amount of time to reduce exposure for workers using dual protection when exposed to noise above 110 dBA Lex will be based on a 3 dBA exchange rate, as set out in Table 16.5 of the official OHS Code Explanation Guide:

Exposure Level (dBA Lex (1))	Exposure Time (2) (Hours)
110	8
113	4
116	2
119	1
122	0.5
125	0.25

Notes:

1. Worker exposure must be measured in accordance with CSA Z107.56-06, Procedures for Measurement of Occupational Noise Exposure
2. This is total noise exposure worker may have over the work shift; the worker may not be exposed to noise above 85 dBA for the remainder of the work shift

3. AUDIOMETRIC TESTING

8.1. Audiometric Testing to Be Provided

ABC Company will provide to workers exposed to excessive noise (as defined in Section 2 above), at ABC Company's expense, the audiometric testing required by Section 223 of the Code, including:

- An initial baseline test as soon as reasonably practicable and no later than six months after the

worker is employed or within six months after a worker becomes exposed to excessive noise as a result of changes in work duties or conditions

- Where reasonably practicable, baseline testing will be:
 - Done after a minimum 12 hour period during which the worker is not exposed to any noise AND
 - Conducted in a noise-free environment when the worker has been away from noise for 14 hours, including noise exposure away from work
- Additional testing within 12 months of the initial baseline test
- Additional testing at least every 2 years thereafter

8.2. When Audiometric Testing Will Be Conducted

If reasonably practicable, the audiometric tests required under this Policy will be carried out during the worker's normal working hours. If it is not reasonably practicable for the worker to undergo testing during his/her regular working hours, ABC Company will:

- Credit the time the worker spends getting the tests as time spent at work AND
- Ensure the worker does not lose any pay, seniority, or other benefits because he/she was tested.

8.3. How Audiometric Testing Will Be Conducted

ABC Company will ensure that the above audiometric tests are administered by an audiometric technician who will:

- Work in consultation with a physician, audiologist, or occupational health nurse designated by ABC Company
- Maintain a log book for each audiometer used that:
 - Contains the written calibration records of the

audiometer AND

- Remains with the audiometer throughout its useful lifetime
- Perform pure-tone-air conduction threshold testing of each ear at 500, 1,000, 2,000, 3,000, 4,000, 6,000, and 8,000 Hz
- Perform such tests in a location where background noise does not exceed the levels set out in Table 3 of Schedule of the Code:

Permissible Background Noise Conditions during Audiometric Testing

Octave Band Centre Frequency (Hz)	Maximum Noise Level (dB)
500	22
1,000	30
2,000	35
4,000	42
8,000	45

8.4. Records of Audiometric Testing

The audiometric technician who performs the required audiometric tests on workers will:

- Record the results of the audiometric tests performed
- Give the worker a copy of the test results
- Keep the audiometric test records for at least 10 years
- Ensure that the medical history information is under the sole control of the consulting physician, audiologist, or occupational health nurse designated by ABC Company referred to in the first item above

8.5. What Happens If Tests Show Abnormal Audiogram/Abnormal Shift

Where the audiometric test results indicate an abnormal audiogram or show an abnormal shift, the audiometric technician will:

- Advise the worker of the test results
- Ask the worker to provide relevant medical history—workers asked to provide a medical history must do so
- Forward the results, relevant medical history, and a baseline audiogram to the physician or audiologist designated by ABC Company to receive this information

8.6. What Happens If Abnormal Audiogram/Abnormal Shift Is Confirmed

Where the physician or audiologist designated by ABC Company confirms the audiogram as being abnormal or as showing an abnormal shift, the designated physician or audiologist will:

- Advise the worker of the confirmation within 30 days
- Give the worker's physician the results of the audiometric tests—as long as the worker provides written consent to do so
- Advise ABC Company about the effectiveness of the Noise Management Program in place at the work site
- Keep the audiometric test records for at least 10 years

8.7. Confidentiality of Worker's Medical Information

Audiometric test records conducted under this Policy and the medical history provided by the worker. will not be released to any third persons unless the worker provides written consent (except insofar as such release is required by this Policy or the law).

9. TRAINING

Workers exposed to excessive noise will be trained in the proper selection, maintenance, and use of required hearing protection. Such training will include (without limitation):

- The hazards of exposure to excessive noise
- How hearing protection protects them from such exposure
- The capabilities and limitations of particular types of hearing equipment
- The importance of ensuring a tight and comfortable fit
- How to effect a tight seal between earplugs and the ear canal
- How to effect a tight seal between earmuffs and the side of head
- How to inspect the equipment
- How to clean and maintain the equipment
- Why it's important not to modify the equipment, such as by drilling holes in earcups

10. PRIME CONTRACTORS, CONTRACTORS & SUBCONTRACTORS

ABC Company will ensure that any prime contractors, contractors, and subcontractors hired to perform work involving exposure to hazardous levels noise at its work site are, before such work begins:

- Notified about the noise hazards at the site and the dangers they pose;
- Required to ensure that all of their affected workers are provided and properly trained and instructed to use the hearing protectors required for such noise levels under this Policy and the Noise Management Program
- Notified of the hearing testing provided by ABC Company to workers.

Prime contractors in control of work at an ABC Company site that involves exposure to hazardous noise levels will be required to provide exposed workers engaged in the contract work adequate protection against those hazards by applying either:

- This Policy and the applicable Noise Management Program for the site; or
- An equivalent policy and noise management program that

meet the requirements of of the Code.

11. EVALUATION

This Policy will be reviewed, in consultation with the workplace Joint Health and Safety Committee, Health and Safety Representative, or, where no Committee or Representative exists, directly with workers at the site who are exposed to excessive noise, at least once a year and immediately in response to:

- Worker complaints or symptoms indicating ringing in the ears or hearing loss due to exposure to excessive noise
- Changes to equipment, machinery, tools, or work conditions that increase or have the potential to increase either:
 - How much noise the worker is exposed to OR
 - The length of time the worker is exposed to excessive noise
- Before the construction of significant additions or alterations to a work site that have the potential to create noise hazards
- Any other indications suggesting that this Policy might be ineffective or not responsive to current work site conditions and noise hazards

Legislation/Standards/Regulation

- **The Occupational Health and Safety Act, RSA 2000, c 0-2**
- **The Occupational Health and Safety Regulation, Alta Reg 62/2003**
- **The Occupational Health and Safety Code 2009**
- ANSI S1.4-1983 (R2006), Specification for Sound Level Meters
- ANSI S1.25-1991 (R1997), Specification for Noise Dosimeters
- ANSI S1.43-1997, Specifications for Integrating Averaging Sound Level Meters
- ANSI S3.6-2004, Specification for Audiometers

- CSA Z94.2-02, Hearing Protection Devices – Performance, Selection, Care, and Use
- CSA Z107.56-06, Procedures for the Measurement of Occupational Noise Exposure
- IEC 61672-1 (2002), Electroacoustics – Sound Level Meters, Part 1: Specifications, and Part 2: Pattern Evaluation Tests