Noise Control and Hearing Conservation

Couple of takeaways

- Noise pollution and excessive exposure to noise impacts our hearing, creates communication issues and resulting stress.
- We need to focus on noise prevention to keep noise below the exposure standard and at a comfortable level. For example, buying quiet plant and equipment.
- The Hydro Tasmania group use noise testing, audiometric testing, signage and personal protective equipment (PPE) to manage residual risk.

What is this procedure for?

This standard provides detail on the effective management of workplace noise. This standard applies to all workers (including contractors) and visitors accessing or working on Hydro Tasmania group worksites.

The aim is prevention of noise induced hearing loss and other harmful effects of noise and minimisation of other unwanted but not necessarily harmful effects. Noise shall be kept to levels as low as reasonably practicable (ALARP) giving due consideration to health, safety, efficiency, comfort, economy, and environmental effects.

Note: Occupational noise induced impairment is out of scope of this standard and shall be managed in accordance with People and Culture policies and procedures addressing workers rehabilitation and compensation management.

How is the process managed?

Asset Owner shall

- Ensure risk from noise are managed to as low as reasonably practical in accordance with this standard
- Ensure workers or visitors to Hydro Tasmania group worksites are not exposed to unreasonable noise
- Where required, develop procedures and programmes to further manage the risks associated with noise
- Provide the necessary equipment and resources to control the risks associated with noise and
- Ensure hazards are assessed and managed for noise

Project / Operations Manager shall

- Plan and schedule the work to minimise the risks associated with exceeding the noise standard.

Designers shall

- Ensure noise control is considered from the beginning of the planning process to eliminate or minimise the noise transmitted through the structure to the lowest level that is reasonably practicable.

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Line Managers shall

- Ensure that a noise assessment and supporting WHS material are communicated, and PPE is made available prior to accessing in hazardous noise areas
- Authorise the work to be done and monitor the controls implemented
- Ensure that delegated responsibilities are fulfilled and
- Ensure that appropriate records relating to noise assessments are maintained.

Workers shall

- Work in a manner which does not adversely affect their own health and safety, or the health and safety of others
- Be briefed in the requirements and understand this standard and
- Follow reasonable instruction provided by Hydro Tasmania group and the control measures identified by the risk assessment.

People and Culture Team shall

- Arrange audiometric testing for new starters for Momentum during the recruitment process and new starters for areas such as Assets & Infrastructure within the first three (3) months of employment
- Provide support and advice and supporting documentation associated with rehabilitation and compensation
- Ensure results are filed on personnel files

WHS and Environment teams shall

- Provide support and advice to risk assessments and supporting documentation
- Shall record audiometric testing performed
- Shall monitor retesting by running regular reports showing those who are due for annual or biannual hearing tests and notify workers and managers advising requirement to arrange for a hearing test with the service provider
- Maintain and review WHS documentation including assessments and results
- Provide specialists advice on strategies to further limit noise exposure at work.

Head of Business Areas shall

- Ensure the guideline is understood and applied across their business group and
- Allocate appropriate funding and resources to meet requirements of the guideline.

Safety Manager shall

- Ensure that training material is current and of an appropriate quality and
- Ensure the activities of contracted services with testing agencies conforms to this guideline.

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What are the standards and processes?

Exposure standards

Hydro Tasmania group has adopted the following exposure standard for noise within the working environment:

- LAeq,8h of 85 dB(A) or
- LC,peak of 140 dB(C).

Note: *LAeq,8h* means that steady noise level which would, in the course of an eight-hour period, cause the same A-weighted sound energy as that due to the actual noise over an actual working day. LAeq,8h is to determine in accordance with AS/NZS 1269 Occupational noise management - Measurement and assessment of noise emission and exposure.

LC, peak means C-weighted peak sound pressure level measured by a sound level meter with a peak detector-indicator characteristic complying with relevant *Sound level meter standards.*

dB(A) and db.(C) means A-weighted and C-weighted decibel. However, a level of noise less than the above, whilst not damaging can have a negative impact on productivity, health, and absenteeism rates. During the conduct of a noise assessment, these issues should also be considered e.g., working in noise can affect a person's ability to concentrate. Workers who work with a high degree of concentration should work in controlled environments with a limited background noise level.

Hazard management

Hydro Tasmania group manages the hazards associated with occupational hearing impairment in accordance with hazard identification and Operational Risk Management Procedure. Where a worker is exposed to at the Workplace exceeding the exposure standard control measures shall be adopted to ensure noise is reduced to as far as reasonably practical.

Noise control measures shall be implemented in accordance with the hierarchy of controls as follows:

- Eliminating the hazard (e.g. through purchasing policy – "buy quiet")
- Reducing noise levels (e.g. by reducing noise at source)
- Modification of the noise transmission path in areas accessible by Workers and
- Reducing the time workers spend in noisy areas.

Reports on noise reduction investigations, noise reduction engineering and other associated noise reports shall be filed and made available and maintained as auditable records.

Design and noise exposure

Designers of plant or structures used for work must ensure so far as is reasonably practicable that the plant or structure is designed to be without Risks to the health and safety of persons.

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Designers must take noise control into account from the beginning of the planning process and minimise the noise transmitted through the structure to the lowest level that is reasonably practicable. Further safety in design guidance should be obtained by referencing *Noise Codes of Practice* and *Hazard Identification and Operational Risk Management Procedure.*

Noise exposure

For all workers, exposure to noise shall be kept to levels that are ALARP and in all cases below the Exposure Standard for Noise.

Note: Shift duration of 10 hours or more involving a degree of Risk greater than that indicated by the noise exposure level LAeq,8h. This increase in risk is primarily due to continued exposure after the onset of the maximum temporary hearing threshold shift. The risk may be further increased if there is reduced recovery time between successive shifts. Consequently, where the shift duration equals or exceeds 10 hours, the adjustment listed in the following table must be made to the normalised noise exposure level for that shift before comparing that level with the Exposure Standard for Noise.

Shift Length (hours)	Adjustment to add to LAeq,8h, (dB)
<10	+0
>10 to < 14	+1
>14 to < 20	+2
>20 to < 24	+3

Table: Shift Adjustment

See *AS/NZS 1269.1- Occupational noise management - Measurement and assessment of noise emission and exposure* for further information

Noise limits - general work areas

The noise level shall not exceed 82dB(A) in any area of normal workers access or in any area which cannot be restricted without affecting normal activities. If the noise level in any area under Hydro Tasmania's control may be in excess of 82dB (A), the PIC or equivalent team Leader in charge of the work shall ensure that access to the area is restricted, that prominent warning signs, (complying with *AS1319 Safety signs for the occupational environment)* are placed at the 82dB (A) contour line and that compliance with relevant requirements of this standard are achieved.

Noise limits- office areas

Sound pressure levels shall be set to achieve compliance with AS/NZS 2107 Acoustics – Recommended design sound levels and reverberation times for building interiors.

Noise limits - call centres

Specific procedures and noise prevention programmes should be developed for particular Hydro group work areas including Hydro group call centres. This standard outlines the fundamental requirements for work in operational and general office environments.

Additional factors for call centre environments may also need to be considered such as acoustic incidents, hearing ability, communication, and the need for clear speech.

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Noise hazard areas

If noise levels in any area may exceed 82dB(A), that area shall be classified as a noise hazard area.

Where noise hazard areas are identified, the Asset Owner shall ensure that noise assessments are undertaken, and appropriate noise control measures are developed as outlined below.

Initial assessment

This should consist simply of a walk through and / or desktop survey, using a ready reckoner evaluation as outlined in *Noise Codes of Practice* or plant and equipment noise surveys to identify areas / workgroups which require a more detailed noise survey.

Occupational noise survey

Areas suspected of containing noise hazards shall be surveyed in accordance with the procedures in *AS/NZS 1269 Occupational noise management - Measurement and assessment of noise emission and exposure*. The more complex the situation, the more knowledgeable and experienced the person needs to be.

- Understands what is required by the WHS Regulations for noise
- Knows how to check the performance of the instruments
- Knows how to take the measurements properly and
- Can interpret the results of the noise measurements

Noise hazards need to be surveyed by a person who has accurately calibrated noise measuring instruments and, through training and experience:

- All instruments used for noise surveys shall be of an appropriate class. Integrating-averaging sound level meters shall comply with the relevant requirements of AS IEC 61672 series Electroacoustics – Sound level meters (or available superseded AS 1259 series Acoustics – Sound level meters) for Australia and have been calibrated by an approved certifying authority within the previous two-year period.
- Noise surveys shall be appropriately designed and used for the following:
- Noise assessment reports shall be provided to the WHS Team for review recording purposes.

Periodic assessments

The Work Planner shall ensure that periodic assessments are undertaken when:

- Undertaking project planning to identify workgroup exposure to noise is more than the LAeq,8h of 85 dB
- To validate implemented noise reduction modification / measures on plant and equipment and / or
- Where the risk assessment identifies a noise issue if Hydro Tasmania group scope of work changes

Plant and equipment

Hydro Tasmania group shall conduct noise plant and equipment assessment to verify compliance with this standard.

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Pre-purchase evaluations shall also be conducted in accordance with *Pre-Purchase Evaluation Standard* to ensure that noise exposure standards are considered prior to the purchase of plant and equipment.

Where practical, plant, equipment, or machinery, whether mobile or stationary are fitted with sound insulation and / or silencers to reduce noise to ALARP.

Where plant or equipment that is necessary for specific activities (e.g. heavy lift cranes) cannot meet the maximum noise limit, the Work Requestor shall ensure control measures are identified and available prior to mobilising plant or equipment or commencing work with this equipment on Hydro Tasmania controlled worksites.

If the total area noise from combined plant, equipment, or machinery in any unrestricted area under its control is found to exceed 82dB(A), the person in charge shall immediately implement processes to reduce the noise levels in the affected area. If noise levels cannot be reduced below 82dB(A), control measures such as silencing, barricading, limiting worker interface and appropriate hearing protection shall be implemented.

Where it can be clearly demonstrated that noise reduction by engineering means is not reasonably practicable or as a temporary measure until noise hazards are eliminated, Hydro Tasmania group shall reduce their workers' noise exposure by the hearing conservation measures outlined below.

Warning signs

Prominent signs shall be placed at the 82dB(A) contour line in every area where noise cannot be reduced below this level. Signs shall comply with *AS1319-1994 Safety signs for the occupational environment*

Control of Exposure Time

Hydro Tasmania group shall assess all noise exposed jobs and where practicable shall reduce individuals' exposure time.

What personal protective equipment is required?

Wearing approved hearing protectors is compulsory for all work within known 82dB(A) contours. The Work Supervisor shall ensure that a range of approved hearing protectors is available to all its workers and visitors exposed to noise Hazard areas.

Hearing protectors shall comply with *Personal Protective Equipment Standard*

Where the available hearing protectors, used individually, do not provide calculated attenuation to below the noise standard, the Work Supervisor should:

- limit access to that area to essential Workers only
- ensure that their Workers wear double hearing protection (i.e., a combination of ear plugs and earmuffs) doing essential work in the area.
- seek alternative protectors who do provide calculated attenuation to below the nominated standard.

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What training is required?

In areas where noise Hazards exist and reliance is placed on Hearing Conservation measures, Hydro Tasmania group shall ensure that its noise exposed Workers are provided with education and training in Hearing Conservation. Refer to *Personal Protective Equipment Standard* for further information.

How do we do audiometric testing?

Hydro Tasmania group arranged audiometric tests for Workers are required when:

- A worker is routinely exposed to a hazardous noise area
- A worker is routinely subjected to noise exceeding Exposure Standards of this standard
- A worker spends >50% on a phone for work purposes or
- determined by a noise hazard assessment

The Hydro Tasmania group arranged audiometric tests shall be undertaken:

- within three (3) months of commencement of work and
- any subsequent test every 2 years or earlier as commensurate with the Risk associated with the Worker's exposure.

Audiometric testing and assessment of audiograms shall be carried out by competent persons in accordance with the procedures in *AS/NZS 1269 - Occupational noise management - Auditory assessment*.

Workers shall be given the results of audiometric testing accompanied by a written explanation of the meaning and implications. Only with the consent of the Worker shall Hydro Tasmania group provide results to other parties.

Unidentifiable individual results and group data shall be reviewed by the Head of WHS or delegate and Line Managers to identify any trends or issues and consider strategies for improvement.

People and Culture Team schedules audiometric testing during pre-employment for Momentum, Induction period for new starters or within the first 3 months of employment and then worker undergoes an audiometric test.

WHS team manages the retest process- runs reporting of retests due and then notify worker and manager Audiometric retest required and to schedule with Audiometric testing Company.

Service Provider then conducts audiometric testing on employees and then collate results, provide verified and authorised findings by qualified audiologist, and notify Hydro Tasmania group. The findings need to be provided by 2 working days for new starters and for all other tests by the end of the testing month.

After the tests are completed, summary of results and reports need to be sent to WHS at WHSteam@hydro.com.au team by audiometric testing company.

WHS team then reviews results, records, and uploads on the system. The file is then forwarded to People & Culture team.

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People & Culture Team ensures record are kept on personnel file and then asks the managers to provide workers a copy of their report.

How is our privacy and confidentiality managed?

Hydro Tasmania group will not use personal information collected from employees, contractors or visitors in a manner that contravenes this procedure or privacy laws. Information obtained in the process of conducting tests will be treated in the strictest confidence. Individual test results are not released to anyone who is not directly involved in the testing process, except under the following circumstances:

- The employee, contractor or visitor authorises, in writing, the transfer of information.
- The employee, contractor or visitor has signed a release form for rehabilitation or a return-to-work program, and results of the test must be known to certain persons involved in the rehabilitation or return to work program to facilitate further action concerning the employee or contractor.
- When the results of the test become subject to a dispute. However, the information may only be released to other parties on a 'need to know' basis and were doing so would not breach privacy or other applicable laws.
- When complying with any legal requirement.

How are records managed?

Records will be maintained on the causal, random and post incident testing programmes. Personal information collected in the process described above will only be used or disclosed as far as is reasonably necessary for compliance with this procedure and any legal requirements.