STANDARD OPERATING PROCEDURE:

PURPOSE

The purpose of this procedure is to outline Otago Polytechnic Limited's (Ltd) approach to environmental and personal health monitoring to ensure compliance with related legislation and management of hazards present at Otago Polytechnic Ltd.

This procedure applies to Otago Polytechnic Ltd inclusive of the Dunedin, Central Otago, and Auckland Campus.

Staff members at Otago Polytechnic Ltd shall reference this document when reviewing how Environmental Exposure and Health Monitoring is completed at Otago Polytechnic Ltd.

COMPLIANCE

Health and Safety at Work Act, 2015 and subsequent amendments

- Health and Safety at Work (Asbestos) Regulation 2016 and subsequent amendments Health and Safety at Work (General Risk and Workplace Management) Regulations 2016
- Workplace Exposure Standards (WES) 2018
- Privacy Act 2020
- Accident Compensation Act 2001 and subsequent amendments.

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Document History

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Version	Updates	Date
1	New Issue (Janine Hunter/James Kerr)	April 2021

	2	Update (Janine Hunter/James Kerr)	March 2022

1. Introduction

Environmental exposure and/or health monitoring provides insight into whether staff members are being harmed from exposure to hazards to their health during employment. Monitoring activities enables the identification of initial signs of ill-health, injury and/or disease and informs early intervention and risk management.

Otago Polytechnic Ltd is responsible for monitoring the working and learning environment to ensure hazards are identified and controlled so not to negatively effects staff member's health. Otago Polytechnic Ltd is also responsible for monitoring an individual staff member's health in relation to hazards they are exposed to.

Monitoring involves obtaining initial baseline health monitoring and environmental exposure levels and includes ongoing health and environmental monitoring in relation to workplace exposures. Monitoring can identify if there is an exposure to a serious risk to health or can detect changes in an individual staff member's health that are known to be associated with exposure to a particular hazard.

Common health monitoring examples include monitoring for hearing loss, and decreased lung function. The type of monitoring required must be reviewed against the risks present within the environment of a person conducting a business or undertaking (PCBU).

Furthermore, by conducting health monitoring the control measures which are in place to prevent injury and or illness to staff members, may be reviewed against whether they are working effectively, or require to be strengthened.

2. Monitoring Methods and Processes

Monitoring may involve environmental measurements (e.g., air or dust sampling, sound levels, radiation levels etc.) or direct health monitoring of individual staff members (e.g., blood, urine, lung function, audiometry tests). The workplace exposure standards are used to determine exposure levels and trigger if there needs to be more effective control measures. Refer to Workplace exposure standards and biological exposure indices.

- The requirement for environmental and health monitoring is identified through various methods, including:
    - Identification of new health hazards.
    - Management and monitoring of existing health hazards.
    - Introduction of new equipment, products, or substances to work areas that may affect exposure.
    - Change in work processes and procedures implemented through work areas that may affect exposure.
- The Health and Safety team will liaise with appropriate work area Formal Leaders (Head of College and/or Head of Programme/Service Area Director) once a requirement for monitoring has been identified.
- The Health and Safety team will identify the appropriate Occupational Health referral pathway and work with Formal Leader/s who are responsible for the work area.
- Appropriate Exposure Monitoring is carried out by a trained Occupational Health Hygienist who ensures:

- All samples are representative of the process/monitoring under investigation.
- The method of sampling is appropriate.
- The standards against which any results are assessed are appropriate.
- The interpretation applied to the results is appropriate.

Where an assessment has established that there is a significant hazard to health, the staff member will be informed, and their consent obtained for further health monitoring to be completed.

- Staff members at risk from workplace hazards to health are monitored to establish that workplace hazard controls are effective (refer to Section 4). The information relating to exposure, work and medical history, and signs and symptoms of exposure will be collated and interpreted by a person who understands both the work activities and occupational health such as an Occupational Health Nurse.
- Health monitoring will be untaken at appropriate intervals, and schedules are further elaborated in Section 4. Monitoring Schedule.

2 Noise Monitoring

3.1 Plant and Equipment

Staff members purchasing new equipment are required to contact the Otago Polytechnic Ltd Health and Safety Team, ensuring appropriate risk assessment is completed prior to purchase, and the appropriate "purchase quiet" methodology has been applied.
Steps to follow for when considering new plant/equipment purchase or hire:

- Ensure that prior to purchasing or hiring plant and equipment, noise emission data is obtained from the supplier or manufacturer. As far as practicable, preference shall be given to plant and equipment with low noise emissions (levels lower than eighty-five (85) decibel A (dBA)). And:
- Noise levels in areas where new plant or equipment is installed is not to exceed eighty-five (85) dBA.

Existing Plant and Machinery and Processes

- Modifications to existing plant and machinery are subject to the requirements of this procedure. Best practice is to control the noise at source, lowering noise levels to lower than eighty-five (85) dBA, where practicable, when modifying existing plant, equipment, or work processes.
- Equipment must be regularly serviced to ensure quiet running levels are achieved.
- Work areas with excessive noise levels are to be designated as mandatory hearing protection areas (e.g., using signage and segregation, where available) if alternative noise level reduction controls are not reasonably practicable.
- Agreements with contractors for the supply of goods or services onsite are to be subject to the same noise exposure limits and requirements described in this procedure.

3.2 Risk Assessment

When noise is identified in a work area during an ongoing task, a noise exposure assessment is to be conducted to determine the exposure of noise for staff members at risk of being exposed to excessive noise. An initial scoping assessment may be conducted internally to gauge whether additional monitoring is required.

In depth workplace monitoring is to be carried out by a trained Acoustical Consultant and is required to be repeated every five (5) years. Refer to: AS/NZS 1269.1.2005 Occupational Noise Management; Part One). All records must be stored on Vault (Otago Polytechnic's Health and Safety Management System).

Additional, noise assessments are undertaken in work areas:

1. Where a change occurs, which may result in a change to noise levels (i.e., increased noise levels).
2. Where a change to working arrangements affects the length of time staff members are exposed to noise.
3. If there is uncertainty whether staff members are being exposed to noise levels above eighty-five (85) dBA or if there is concern over peak noise exposure (short intense exposure).

3.3 Audiometric Testing

Work areas identified as locations with excessive noise levels, are required to have ongoing noise monitoring as highlighted within this procedure.

- Audiometric baseline testing shall be pre-employment, as required. This involves testing a job applicant before they commence employment to record their hearing results upon employment so these can be reviewed for deterioration.
- Follow-up tests shall be carried out annually.

A competent person is required to carry out audiometric testing and assessments in accordance with AS/NZS 1269.4:2014 Occupational Noise Management.

- Testing is coordinated by Health and Safety.

3.4 Personal Hearing Protectors

Personal hearing protection or Personal Protective Equipment (PPE) requirements are set out below:

- PPE is to be used when levels of excessive noise cannot be reduced by using other control measures (as per the hierarchy of control).
- PPE is mandatory in all areas where workers may be exposed to excessive noise levels, and as per mandatory hearing protection signage.
- PPE must comply with AS 1270:2002 Acoustics – Hearing Protectors. The class/type of hearing protection is to be adequate to provide protection against the specific noise levels and frequencies that staff members are exposed to.
- Staff are required to be trained in correct fitting of Personal hearing protectors and/or PPE and care of hearing protection (Hearing Protection information on Tūhono).
- Any staff member who is required to wear hearing protection/PPE must have an audiometric test annually.

4. Monitoring Schedule

The schedule below highlights areas requiring a monitoring schedule at Otago Polytechnic Ltd. This schedule is reviewed regularly to ensure risk management monitoring is adequate for hazards present within the Otago Polytechnic Ltd's work environment.

Additional information below explains how monitoring frequencies are established:

- Noise is required to be monitored every five (5) years as per the Approved Code of Practice for Management of Noise in the Workplace.
- Frequency of environmental exposure monitoring depends on how close the initial baseline results are to the workplace exposure standard. Refer to **Appendix 1.**
- Any change in work processes, procedure, plant/machinery/equipment, products, or substances which may affect effect exposures baselines need to be reviewed.

Location	Type of Monitoring	Reasoning	By Whom
ECL – Carpentry	Noise and Dust	Potentially harmful	Occupational Hygienist

		environments	
ECL – Soil Laboratory	Dust	Potentially harmful environments	Occupational Hygienist
ECL - Horticulture	Dust and Chemicals	Potentially harmful environments	Occupational Hygienist
ECL – A Block (Automotive / Trade) and Heavy Automotive	Noise	Potentially harmful environments	Occupational Hygienist
ELC – Fabrication	Noise and Welding Fume	Potentially harmful environments	Occupational Hygienist
Campus Services	Noise	Potentially harmful environments	Occupational Hygienist
Poly Kids	Noise	Potentially harmful environments	Occupational Hygienist
Manaaki (Kitchen)	Noise	Potentially harmful environments	Occupational Hygienist
Art School (Ceramics)	Noise and Dust	Potentially harmful environments	Occupational Hygienist
Art School (Print Making)	Chemical	Potentially harmful environments	Occupational Hygienist
Art School Sculpture	Noise and Fume	Potentially harmful environments	Occupational Hygienist
Art School Photography	Chemical	Potentially harmful environments	Occupational Hygienist
EPIC	Noise and Welding Fume Chemical (Spray Booth)	Potentially harmful environments	Occupational Hygienist
Cromwell Campus Brewery	Noise	Potentially harmful environments	Occupational Hygienist
Cromwell Campus Carpentry	Noise and Dust	Potentially harmful environments	Occupational Hygienist
Cromwell Campus Automotive	Noise and Welding Fume	Potentially harmful environments	Occupational Hygienist
Cromwell Campus Stone Masons	Noise and Dust	Potentially harmful environments	Occupational Hygienist
Cromwell Campus Horticulture	Noise and Dust	Potentially harmful environments	Occupational Hygienist
Cromwell Campus Viticulture	Noise and Chemical	Potentially harmful environments	Occupational Hygienist
Cromwell Campus Turf	Noise and Chemical	Potentially harmful environments	Occupational Hygienist

Health Monitoring				
Location	**Type of Monitoring**	**Frequency**	**Reasoning**	**By Whom**
Occupational Professional	Pre-employment (inclusive of Audiometry, Spirometry and general medical	New Staff Members	Baseline/Fitness for Role	Occupational Health Nurse
On-campus	Audiometry	Annually	Potentially noisy	Occupational Health

			environments	Nurse
Optometrist	Vision Testing	Every four (4) years	Computer related work activities	Optometrist
On-campus	Spirometry/Lung function	Annually	Potentially dust and fume orientated environments	Occupational Health Nurse

Note: Monitoring environment requirements are reviewed for ongoing and biological exposure monitoring may occur as recommended by Occupational Hygienist.

5. Record Keeping

The below points describe record keeping information related to health and environmental monitoring:

- The results of all health tests will be shared with the staff member and kept on the staff member's personal file.
- Where an abnormal result indicates that a hazard control is not effective then the hazard will be reviewed and controlled as far as reasonably practicable and further exposure monitoring carried out.
- Records are to be kept for thirty (30) years. Refer to Health and Safety at Work (General Risk and Workplace Management) Regulations (2016).

6. References

- Approved Code of Practice for Management of Noise in the Workplace
- Health and Safety at Work Act 2015
- The Health and Safety Regulations 1995 Section 2, Clause 11
- Exposure Monitoring and Meath Monitoring Guidance for Businesses March 2021
- Australian Institute of Occupational Hygienists (AIOH) Guide: Simplified Occupational Hygiene Risk Management Strategies 2006.

7. Related Policy Documents

- Protective Clothing and Equipment Policy
- Hazard Management Policy

8. Training Requirements

Personnel	Training Method	Training Records	Training Records Stored
Executive Leadership Teak Members, Heads of College, Programme Heads, Service Area Directors, Health and Safety Advisor Director: Health and Safety	☒ Read Procedure only ☐	Sign off record	Stored on training matrix within Vault

Appendix 1

The Australian Institute of Occupational Hygienists (AIOH) Guide: Simplified Occupational Hygiene Risk Management Strategies 2006.

Table 3.4
Quantitative exposure descriptor for In-air Exposure Potential
Based on an Estimate of the Mean of the Exposure Profile for a work group relative to the OES
(possible criteria for frequency of air monitoring is included)

A - Almost Certain	Mean > 10 x TWA - OES	Reduce exposure and monitor weekly
B – Likely	Mean: > TWA – OES but < 10 x TWA - OES	Monitor monthly until exposure reduced
C - Possible	Mean: 50% - 100% TWA – OES	Monitor half yearly to quarterly
D – Unlikely	Mean: 10% - 50% TWA – OES	Monitor yearly
E - Rare	Mean <10% TWA – OES	Monitoring not required (Provided there is no change to the process, material or controls since the last survey.)

NOTE: A TWA-OES (time-weighted-average occupational exposure standard) is the maximum acceptable average concentration of a chemical agent.