FORM

Application for an enforceable undertaking

June 2019

Part 4, Health and Safety at Work Act 2015

The commitments in this application are offered to WorkSafe New Zealand by

Name of entity or, partnership or individual applying for this undertaking

The University of Waikato | Te Whare Wananga o Waikato

New Zealand Government

WORKSAFE
Mahi Haumaru Aotearoa

WORKSAFE
Mahi Haumaru Aotearoa

FORM

Application for an enforceable undertaking

Part 4, Health and Safety at Work Act 2015

The commitments in this application are offered to WorkSafe New Zealand by

Name of the person or persons who will be signing this undertaking in section 4:

Neil Quigley, Vice-Chancellor of the University of Waikato

On behalf of:

The University of Waikato | Te Whare Wānanga o Waikato

Name of the entity giving this undertaking (if an individual or sole trader, leave blank – complete in all other cases)

The University of Waikato | Te Whare Wānanga o Waikato

This enforceable undertaking is given on the day and date that it is accepted and signed by WorkSafe. The undertaking and its enforceable terms will operate as a legally binding commitment on the part of the person from the date it is given.

Do not refer to the victim by name in this document. Please refer to the victim/worker/employee/volunteer/or other term as appropriate.

WorkSafe respects your privacy and is committed to protecting personal information. The information provided in this document is for the purpose of an undertaking given to WorkSafe under Part 4 of the *Health and Safety at Work Act 2015*. This information will be managed within the requirements of both the *Privacy Act 1993 and the Official Information Act 1982*.

There is an expectation that WorkSafe will generally publish the undertaking in full on its website.

TERM	DEFINITION
Contravention	An action which offends against the *Health and Safety at Work Act 2015* and/or any Regulations made under it. It includes both health and safety contraventions. A contravention also includes an alleged contravention.
HSMS	A Health and Safety Management System.
Person	An individual who or a legal entity which has a duty under the *Health and Safety at Work Act 2015* and can give a written undertaking. The term includes individuals, each partner in a partnership, corporations, trustees of trusts, and crown organisations.
Health and Safety legislation	*Health and Safety at Work Act 2015* and associated regulations.
Enforceable undertaking	An enforcement pathway that allows a duty holder to voluntarily enter into a binding agreement with WorkSafe. The agreement outlines actions the duty holder will undertake to address the contravention. It is expected to deliver activities which benefit workers, the wider industry or sector and/or the community as well as acceptable amends to any victim(s).

WSNZ_2483_JUN 19

1. General information

1.1 Details of the person/persons/entity giving the undertaking

Name of person(s) making this undertaking: (in all cases complete with the name(s) of those who are signing this undertaking under Section 4)

Neil Quigley, Vice-Chancellor

Name of entity: (if applicable, leave blank if an individual)

The University of Waikato | Te Whare Wānanga o Waikato

Type of legal entity: (complete in all cases, for example individual, sole trader, partnership, trust, company, etc)

Tertiary Education Institute

Nominated contact person: (the same person listed above/one of those listed above)

Rose Macfarlane
Director, People and Capability

Physical address:

Gate 1, Knighton Road
Hamilton 3240
New Zealand

Postal address: (if different from physical address)

Private Bag 3105, Waikato Mail Centre
Hamilton 3240 Waikato

Work phone:

Mobile phone: [redacted]

Email: rose.macfarlane@waikato.ac.nz

Industry: Tertiary Education

Workers (enter numbers):

Full-time: 1224 Part time: 707 Casual: 905

Description of the products and services provided by the business or undertaking:

The University of Waikato delivers an education and research portfolio to approximately 13,000 students with 1,500 staff. The University of Waikato's academic departments are grouped into divisions, faculties and schools. The five main groupings are:

1. Division of Arts, Law, Psychology and Social Sciences
2. Division of Health, Engineering, Computing and Science
3. Division of Education
4. Waikato Management School
5. Te Pua Wananga ki te Ao – Faculty of Māori and Indigenous Studies

In addition to these five areas, there is also the University of Waikato College – Te Kura Huanui and Te Mata Kairangi School of Graduate Research.

The constitution of the University of Waikato Council comprises 12 members and the membership of the University of Waikato Council is governed by the University of Waikato Council Appointments Statute

Comments:

1.2 Detail of the contravention

WorkSafe has laid charges under sections 36(1)(a), 48(1) and (2)(c) of the Health and Safety at Work Act 2015 (Act). These charges were laid as a result of an incident at the University on Monday, 25 July 2022, which resulted in injury to an employee of the University (**Injured Person**) and to two other employees also suffered harm that day.

WorkSafe alleges that the University being a person conducting a business or undertaking (PCBU), and having a duty to ensure, so far as is reasonably practicable, the health and safety of workers who work for the PCBU, including the Injured Person, while the workers are at work in the business or undertaking. Namely while changing an oxygen cylinder supplying the glass blowing workshop, did fail to comply with that duty, and that failure exposed workers to a risk of serious injury.

The charging document claims that in order to ensure the health and safety of its workers, the University should have taken these reasonably practicable steps:

(1) Developed, implemented and monitored a system for regular inspection of the gas distribution system by a competent person.

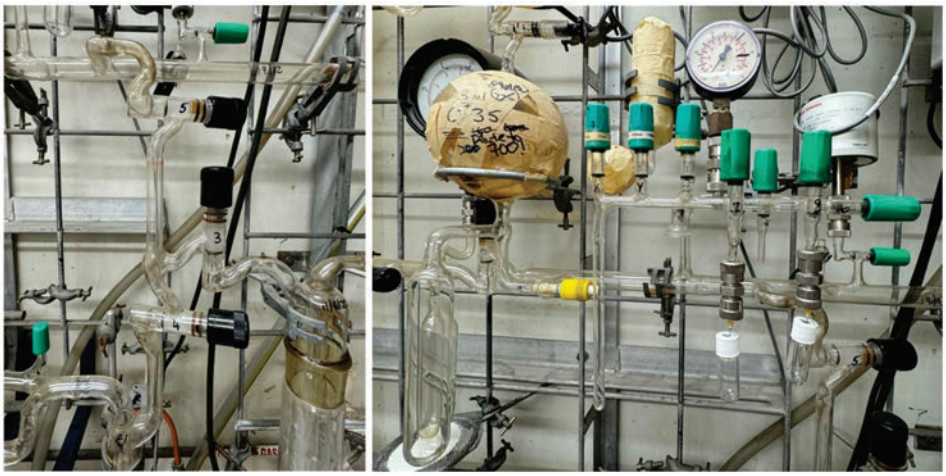
(2) Developed, implemented and trained workers in, and monitored compliance with, a safe system of work to move and connect gas bottles to the gas distribution system safely.

1.3 Detail the events surrounding the contravention

The Scientific Glassblowing Workshop is located in what was then the Division of Health, Engineering, Computing and Science at the University of Waikato.

The Injured Person is the Advanced Technical Officer and the sole Scientific Glassblower at the University of Waikato. The Injured Person has worked for nearly 30 years at the University of Waikato and been involved in the craft of scientific glass blowing for over 35 years.

Scientific glassblowing is a specialist craft and is becoming a diminishing art with less than five still actively working in New Zealand. The normal process for Scientific glassblowers includes drilling, milling, molding, grinding, polishing, cutting and manipulating glass. The injured person was primarily supporting the carbon dating laboratory with both custom layouts as well as the glass used daily.



Two examples of scientific glass blowing in a carbon dating situation

To achieve the flame temperature required to manipulate the glass, compressed oxygen is used in combination with natural gas.

On Monday, 25 July 2022 the Injured Person arrived at work and following some administrative tasks, he turned on the gas torches in the Glass Blowing Workshop to start work.

It is understood that just before 8.00 a.m. the Injured Person went to change the G size oxygen cylinder, which is located in a gas bottle cage outside of his glass blowing workshop. The empty oxygen cylinder was disconnected, and it appears that he took another oxygen cylinder from the storage cage to replace the empty cylinder. We understand that the Injured Person put the “G” cylinder into place and connected the cylinder to the fixed delivery system.

A loud bang was heard and there was an apparent pressure wave from an oxygen fire. A “fireball” then appears to have engulfed the Injured Person. Due to additional oxygen, the fire burns quickly, hot and appears explosive.

The fire was of short duration but it was followed by a loud roaring noise as oxygen escaped under high pressure from a ruptured hose. Several employees who were nearby came to assist the Injured Person. The Injured Person was conscious and breathing.

University staff dialed 111 and staff were put through to the Police who organised for an ambulance and the fire service to attend. Around 8.15 am the Fire Service arrived and took command. Fire service staff were taken to the workshop and a staff member turned off all gas torches that were still going. The Injured Person was taken to hospital by ambulance.

The exact cause of the oxygen fire has not been able to be determined, however, potential causes include a range of things such as contamination, instant static discharge, debris in the fitting, premature failure of the hose.

1.4 Detail any enforcement notices issued that relate to the contravention as detailed in term 1.2

DATE	NOTICE TYPE	NOTICE NUMBER	CONTRAVENTION OR PROHIBITED ACTIVITY	ACTION TAKEN IN RESPONSE TO NOTICE
26 / 07 / 2022	Non-disturbance Notices	18551, 18552, 18553		
09 / 08 / 2022	Improvement Notice		Glass Blowing Risk Management	Notice Closed
DD / MM / YEAR				

1.5 Detail the rectifications to the workplace or work practices made as a result of the contravention (1.2), events (1.3) and the enforcement notices issued (1.4)

The University has undertaken a number of significant pieces of work as a result of the incident, including:

1.5.1 Reviewed gas lines, regulators, flash back arrestors across both Hamilton and Tauranga campuses.
1.5.2 Comprehensive Laboratory audits.
1.5.3 Communicated with staff in forums, safety and wellness committee meetings around the event.
1.5.4 Implemented new online and in person training for the handling of gas cylinders
1.5.5 Property Services mapped gas shut off valves in the Science block.
1.5.6 Property Services have reviewed and entered into the University's asset database updated details regarding regulators, flashback arrestors and hoses.
1.5.7 All University leaders attended a half day refresher session to review the Health and Safety at Work Act and how it applies to the University as a whole operation.

Continued at 1.5 in APPENDIX A of this application.

1.6 Total amount of money spent on rectifications

The University identifies $133,730 that has been specifically spent on rectifications related to this incident. The individual departments and schools have also been responsible for the activities listed in 1.5 above (and attached). They have applied different cost coding practices, unfortunately this means that the exact spend cannot be extracted from the data however, it is a significantly higher sum than just the amount that has been identified.

1.7 Detail the injury sustained or illness suffered by victim(s) or other(s) as a consequence of the contravention or, (as applicable) the *potential* for fatal injury or future fatal illness

Injured person 1 - Burns to the trunk, arm, wrist, hand, and the wider body. Burst ear drum, whiplash, sprain of the elbow, significant hearing loss, tinnitus, and a significant head injury. We understand that head injury has resulted in headaches, loss of concentration, lack of balance, anxiety, and depression.

Injured person 2 – Tinnitus and headache.

Injured person 3 – Tinnitus and headache.

1.8 Detail any offer of amends or payments made to the victim(s) who sustained injury or suffered illness (the total monetary amount here is also to be included in the table at 3.12.3)

Describe the victim(s) relationship to you/the entity in question: (eg employee(s)/shareholder/director/family member/contractor, etc. If the relationship has more than one dimension, for example a family member who is also an employee and a director and/or shareholder of the business, or an employee who is a shareholder (etc) – then please describe this)

All injured people are full time employees of the University.

Detail offer of amends or payments:

Amends to date:
Injured Person #1 (consequential reparations)
- ACC top up of the injured person's salary to 100% to date is $34,339.74
- Additional hearing aid support of $5,500
- Travel costs related to attending Doctor of injured person's choice, Hamilton to Gisborne return of $921.42
- SPF 80 clothing totaling $519
- Payment of Legal fees to date total $6,819.50 Inc GST
- Postponement of planned and agreed retirement, keeping the Injured Person on full pay, this value is $121,299.69
- $60,000 emotional reparations payment to be paid within 14 days of the EU being executed.

Injured Person #2
- [redacted] emotional reparations payment has been made

Injured Person #3
- [redacted] emotional reparations payment has been made

1.9 Detail any consultation with the victim(s) as to their views on whether an enforceable undertaking would be an acceptable alternative to prosecution

See 1.9 in APPENDIX A of this application.

1.10 Detail any consultation with unions/sector/industry as to their views on whether an enforceable undertaking would be an acceptable alternative to prosecution

See 1.10 in APPENDIX A of this application.

1.11 Detail the support provided or proposed by the person to the victim(s), other(s)

DATE	DESCRIPTION OF SUPPORT	COMMENTS
DD / MM / YEAR	*Please see section 1.8 and Appendix A 1.9*	
DD / MM / YEAR		
DD / MM / YEAR		
DD / MM / YEAR		
DD / MM / YEAR		
DD / MM / YEAR		
DD / MM / YEAR		
DD / MM / YEAR		
DD / MM / YEAR		
DD / MM / YEAR		
DD / MM / YEAR		
DD / MM / YEAR		

1.12 Detail any current HSMS implemented and maintained by the person

Describe how health and safety risks are managed, including types of procedures or policies or standards:

The University has a comprehensive health and safety management system (HSMS) that encompasses a suite of policies and procedures for the management of health and safety across its departments, schools and physical locations.

The current management system is tiered in its approach: Central, Division, and School.

The central system is provides a standardised health, safety and risk management process that is consistent with the nature, activities and scale of its operation, to ensure workplace hazards are eliminated or, where elimination is not possible, the risk is identified, assessed, controlled and reviewed. Consultation is a key feature of this system.

The central system incorporates the safety reporting system, hazard and risk management strategies, incident investigation processes, ACC Accredited Employers Partnership Programme, strategic and governance activities, and combined health and safety representation committee meetings. Transparency and independence is ensured by regular reporting to the Senior Leadership Team, Vice Chancellor, the Health and Safety, Risk and Assurance Committee, and the University Council.

The Division system is for implementing the University's central safety and wellness management system and for supporting managers in fulfilling their responsibilities, often focused towards a compliance verification system. Another key output of the divisional system is ensuring relevant health and safety information is shared across the different schools within it. Within the Division of Health, Engineering, Computing and Science this includes offering chemical safety and compliance advice, alongside best practice guidance, managing radiation and biological compliance, and overseeing chemical disposal. Additionally, the Division is involved in developing training and procedural materials in coordination with each school. It also plays a crucial role in collating audits and reporting on trends, as well as leading medium-sized projects.

The School level system is the doing part of the health and safety system. They are tasked with developing risk assessments, safe operating procedures, and safe methods of work statements. Routine safety audits are also conducted to maintain standards. Additionally, the Schools are responsible for conducting inductions that are specific to workshops, laboratories, and particular tasks. The Schools also focus on educating about best practices, implementing and enforcing risk and hazard management controls, and funding operational health and safety requirements.

1.13 Detail the level of auditing undertaken on the HSMS, including compliance audits and audit frequency

Audits are conducted across different departments and schools to ensure compliance and the safety and wellbeing of the staff and students. As a member of the ACC Accredited Employers Partnership Program, the University is audited on a regular basis as part of this programme as well. The University is currently performing at Secondary level, and has been since 2021.

The central health, safety and wellbeing team undertake many internal audits across the University. These include on works that may be occurring by the property division or its contractors.

The School of Science and School of Engineering perform an annual laboratory health check to assess facility, safety, and operational standards. Internal audits involve the lab safety supervisor of the audited lab and a supervisor from another lab. Randomised external verification of these audits are conducted.

The division presents the results to the Division Health and Safety Committee and the senior leadership team, and these also guide decisions on capital or operational expenditures.

Additional external auditing is conducted by the Ministry of Health's Office of Radiation Safety when they conduct biennial audits for radiation compliance. The Ministry of Primary Industries performs regular verifications on the University's physical containment and transitional facilities, with the frequency depending on the specific facility and outcomes from previous audits. CAA undertake audits related to drones as appropriate, as does Maritime New Zealand for the boating activities.

Quality audits are undertaken on a daily, weekly and monthly basis internally in many areas of the University, particularly in research and commercial laboratories and settings. These quality audits contain a number of health, safety and wellbeing components.

1.14 Detail the consultation undertaken or proposed to be undertaken, in relation to this undertaking

The University has consulted with all three injured persons or their representatives.

We have undertaken internal consultation to prepare this application, including with:
- The Vice Chancellor
- The Director People and Capability
- The Pro Vice Chancellor of the Division of Health, Engineering, Computing and Science
- The Pro Vice Chancellor of Research
- The Dean of Te Aka Mātuatua | the School of Science
- The Technical Manager for Te Aka Mātuatua | the School of Science
- Laboratory and Chemical Store Technicians and Team Leads in Te Aka Mātuatua | the School of Science
- A laboratory technician who is the TEU Delegate

The University has also consulted with stakeholders in relation to the activities being proposed by this undertaking, these include:
- The Tertiary Education Union – Te Hautū Kahurangi o Aotearoa
- University of Otago
- Canterbury University
- Auckland University
- Te Pūkenga
- Landcare Research
- GNS
- Local representatives of Te Whatu Ora
- Draeger NZ

This is discussed further in the Appendix.

The University also proposes to undertake additional consultation with other tertiary education providers in New Zealand, some international universities, other Crown Research Institutes and Te Whata Ora.

2. General terms

The person acknowledges and commits to the general terms set forth in the sub-terms below.

2.1 Acknowledgement that WorkSafe alleges a contravention occurred as detailed in term 1.2

The University of Waikato | Te Whare Wānanga o Waikato acknowledges that WorkSafe has alleged a contravention of sections 36(1)(a), 48(1) and (2)(c) of the Health and Safety at Work Act 2015.

2.2 Statement of regret that the contravention occurred

We have apologised directly to the Injured Person for what he and his family have been through as a result of this incident, and we acknowledge that apology again here.

The University of Waikato | Te Whare Wānanga o Waikato sincerely regrets the harm caused to the Injured Persons and we acknowledge the effect this incident has had on the Injured Persons and their families.

2.3 Statement of the reasons why, on balance, the person considers this undertaking is the most appropriate response to the contravention

The University understands that the purpose of an Enforceable Undertaking is to benefit the workers, the workplace, the wider industry or sector and making amends to the community.

The University is committed to ensuring that the events and the failures which led to the alleged contravention will not be repeated.

As a respected education institute, the University views the intent, expense and industry support proposed will provide tangible benefits to the industry and community.

We continue to offer the Injured Person our on-going support.

It is also noted that the University of Waikato:

(1) Cooperated fully with WorkSafe in its investigation of this incident.
(2) Offered support to the Injured Person and we are very sorry he has been through this.
(3) Considers that the activities in this undertaking will greatly benefit and support workers and students and far outweighs the punitive impact of fine.
(4) Will benefit and support external institutions and agencies with the creation of valuable learning related materials for compressed gas cylinders and cryogenic gasses and a risk assessment tool for gases and their detection.
(5) Will benefit and support the community to the value of $30,000 by contributing to St John's CCP internship training.
(6) Has received advice from the Injured Person as to where they believe the community amends could be made, and he has selected a charity that is important to them for a $20,000 donation.

The university believes this proposal and that value that it represents will have a direct and real impact for Ko Te Tangata.

2.4 Statement of commitment that the behaviour, activities and other factors which caused or led to the contravention has ceased and will not reoccur

The University is committed to ensuring this incident cannot be repeated and it has made significant changes to the management of compressed gasses. We are committed to ensuring continuous improvement in the safety of our laboratories.

2.5 Acknowledgment of the policy published by WorkSafe for the acceptance of an undertaking

(write the name of the person(s) or entity giving the undertaking)

The University of Waikato | Te Whare Wānanga o Waikato

has read and understood the Enforcement Undertaking Operational Policy.

2.6 Acknowledgement that this undertaking will be published and publicised in full

(write the name of the person(s) or entity giving the undertaking)

The University of Waikato | Te Whare Wānanga o Waikato

acknowledges that the undertaking will, if accepted, be published on WorkSafe's website in full and referenced in WorkSafe material.

2.7 Statement of the person's ability to comply with the terms of this undertaking and meet the projected costs of the activities

(write the name of the person(s) or entity giving the undertaking)

The University of Waikato | Te Whare Wānanga o Waikato

has the financial ability to comply with the terms of this undertaking and have provided evidence by way of

(type of evidence provided)

Financial Statements for 2023

with this undertaking to support this declaration.

In the event of impending receivership, liquidation or sale of the entity, (write the name of the person(s) or entity giving the undertaking)

The University of Waikato | Te Whare Wānanga o Waikato

will advise WorkSafe of the relevant circumstances and its capacity to comply with the outstanding terms of this undertaking.

2.8 Statement outlining any relationship between the person and any corporations, officers, employees, contractors, proposed beneficiaries of donations or scholarship or other recipient of financial benefit contained in this undertaking

The University has no financial interests in the proposed companies, agencies or consultants to support the implementation of these activities.

University procurement processes will be applied as applicable for the procurement of external services relating to this application.

2.9 Statement regarding Intellectual Property

(write the name of the person(s) or entity giving the undertaking)

The University of Waikato | Te Whare Wānanga o Waikato

grants WorkSafe a perpetual, non-exclusive, worldwide and royalty-free licence to use, for any purpose, all Intellectual Property Rights in relation to any material developed as a result of this undertaking. This licence includes the right to use, copy, modify and distribute the materials.

2.10 Acknowledgement that the person may be required to provide a statutory declaration

(write the name of the person(s) or entity giving the undertaking)

The University of Waikato | Te Whare Wānanga o Waikato

acknowledges that it may be necessary for WorkSafe to obtain a statutory declaration outlining details of any prior convictions (safety related) outside of New Zealand and that it will provide such declaration if required by WorkSafe

2.11 Statement of commitment from the person to participate constructively in all compliance monitoring activities for this undertaking

1. It is acknowledged that responsibility for demonstrating compliance with this undertaking rests with the person.
2. Evidence to demonstrate compliance with the terms will be provided to WorkSafe by the due date for each term.
3. The evidence provided to demonstrate compliance with this undertaking will be retained by the person until advised by WorkSafe, that this undertaking has been completely discharged.
4. It is acknowledged that any failure to meet the due date for an enforceable term will result in the matter being escalated and may lead to enforcement action.
5. It is acknowledged that WorkSafe may undertake other compliance monitoring activities to verify the evidence and compliance with an enforceable term, and cooperation will be provided to WorkSafe.
6. It is acknowledged that WorkSafe may initiate additional compliance monitoring activities, such as inspections, as considered necessary at WorkSafe's expense.
7. It is acknowledged that details of all seminars, workshops and training conducted by a non-registered training provider must be notified to WorkSafe, by email, at least one week prior. Notification should include time, date, location and the trainer/facilitator.

(write the name of the person(s) or entity giving the undertaking)

The University of Waikato | Te Whare Wānanga o Waikato

3. Enforceable terms

The person acknowledges all activities set forth in the enforceable terms below must be auditable and include a date for completion and an estimated cost for each activity.

The person commits to performing the activities below diligently, competently and by the respective completion date.

3.1 A commitment by the person to perform activities that will ensure the ongoing effective management of risks to health and safety in the future conduct of its business or undertaking

Detail the management strategies to be employed that will satisfy and demonstrate to officer/s of the person that this commitment is being met:

The University is committed to ensuring that the activities are completed diligently, competently and by the respective completion date.

This will include the following management and governance activities:

1. Ensure the undertaking is being completed as expected and will appoint a person who will be the point of contact for Worksafe relating to the auditable evidence required and providing updates as required below.
2. Designate a Director level executive sponsor for the undertaking.
3. Monthly/bi monthly project meetings including school and department heads.
4. Bi-monthly governance update to the Vice Chancellor's office.
5. Quarterly governance update to the Health, Safety, Risk and Assurance Committee.
6. Quarterly governance reporting to the Council.
7. Ongoing reporting as requested to Worksafe's Enforceable Undertaking team.

3.2 A commitment by the person to disseminate information about this undertaking to workers, and other relevant parties

(this may include to work health and safety representatives and in the organisation's annual report, if applicable)

Dissemination will be achieved by doing the following:

Further engagement and consulting with the Injured Persons no later than 10 days from the execution of the Enforceable Undertaking.

Engage and communicate with the School of Science Team no later than 15 days from the execution of the Enforceable Undertaking.

Engage and communicate with the TEU no later than 15 days from the execution of the Enforceable Undertaking.

Engage and communicate with the wider University workers no later than 30 days from the execution of the Enforceable Undertaking.

Dissemination will occur by: No later than 30 days following acceptance of the Enforceable Undertaking

3.3 Activities to be undertaken to promote the objectives of the health and safety legislation that will deliver benefits for workers and/or work and/or the workplace

ACTIVITIES Outline the activity and the expected outcomes	COST ($)	TIMEFRAME
3.3.1 Secondary Defences in Gas Detection	$75,000	36 Months
3.3.2 Develop a Research and Field Work Planning and Preparedness Framework	$140,000	36 Months
3.3.3 Appoint Specialist H&S Technical Advisor	Internal Cost	36 Months
3.3.4 Assess and Audit 100 Laboratories	$155,000	36 Months
3.3.5 Complete Safety Culture Surveys	$45,000	36 Months

For further detail see Appendix A – Section 3.3

Total estimated cost of benefits for workers/others	$ 415,000	

3.4 Activities to be undertaken to promote the objectives of the health and safety legislation that will deliver benefits for the wider industry or sector

ACTIVITIES Outline the activity and the expected outcomes	COST ($)	TIMEFRAME
3.4.1 Development of a Gas related Training and Competency Programme	$100,000	36 Months
3.4.2 Risk assessment tool for gas detection systems	$120,000	36 Months

For further detail see Appendix A – Section 3.4

Total estimated cost of benefits for industry	$ 220,000

3.5 Activities to be undertaken to promote the objectives of the health and safety legislation that will deliver benefits for community

ACTIVITIES	COST ($)	TIMEFRAME
3.5.1 Donation to Mātai Medical Research Institute	$20,000	2 Months
3.5.2 Donation to St John towards Critical Care Paramedic Internship	$30,000	2 Months

For further detail see Appendix A – Section 3.5

Total estimated cost of benefits for the community	$ 50,000	

3.6 Where WorkSafe considers appropriate in the circumstances, undertaking a SafePlus Onsite Assessment

Further information about SafePlus can be found here: worksafe.govt.nz/about-us/who-we-are/our-priorities/safeplus/about-safeplus

3.6.1 The suitability of a SafePlus assessment will be determined by the Enforceable Undertakings Panel when your application is considered.

3.6.2 In addition to the total cost below (3.7) all costs of a SafePlus Onsite Assessment will be met by the person making this undertaking. The fee charged for an Onsite Assessment is a commercial matter between your business and the SafePlus Accredited Assessors that you commission.

3.7 Minimum spend

(write the name of the person(s) or entity giving the undertaking)

3.7.1 The University of Waikato | Te Whare Wānanga o Waikato

commits to a minimum spend of $ 920,399.35 for this undertaking.

(write the name of the person(s) or entity giving the undertaking)

3.7.2 The University of Waikato | Te Whare Wānanga o Waikato

agrees to spend any residual amount arising from an original term not being completed or being less costly than estimated in this undertaking. Agreement on how to spend this residual amount will be sought from WorkSafe

(write the name of the person(s) or entity giving the undertaking)

3.7.3 The University of Waikato | Te Whare Wānanga o Waikato

Acknowledges the minimum spend comprises of the:

TOTAL COST		MINIMUM SPEND
Financial amends paid to victims (if applicable)	Emotional Reparations – $66,000, Consequential Reparations – $169,399.35	$225,399.35
Benefits to workers/others		$415,000.00
Benefits to industry		$220,000.00
Benefits to community		$ 50,000.00
Estimated cost of the undertaking Plus GST (if any)		$920,399.35

4. Execution

Authorised representative of an organisation

Undertaking given by (name of authorised representative)

Neil Quigley

In my own right and in my capacity as (eg President, Chairperson, etc)

Vice-Chancellor of the University of Waikato

of (eg organisation name)

On the (day) 4th day of (month) September , 2024 (year).

Signature of the person giving the undertaking:

[redacted]

Undertaking given before me:

Witness name: Rose Macfarlane

Witness address:

The University of Waikato Te Whare Wananga o Waikato
Gate 1, Knighton Road
Hamilton 3240

Witness signature:

[redacted]

5. Acceptance

This undertaking is accepted by WorkSafe.

On the 11th day of September , 20 /24 (year).

Signature of person accepting the undertaking:

[redacted]

Name of WorkSafe representative: (General Manager, WorkSafe (or delegate))

Kelly Hanson-White

Undertaking given before me:

Witness name: Mark Horgan

Witness address: 19 Bower St
Napier, 4110

Witness signature:

[redacted]

APPENDIX A

1. GENERAL INFORMATION

1.5 Detail the rectifications to the workplace or work practices made as a result of the contravention (1.2), events (1.3) and the enforcement notices issued (1.4)

The incident was the first of its type at the University and we are very concerned to ensure that this does not happen again. The incident has prompted an extensive review of how the School of Science | Te Aka Mātuatua operates and how it can be better supported by the University to develop improved safety thinking and behaviours to its work and to build health and safety into its work and research activities. In addition to those listed in the application form at 1.5, this has also included the following activity or activities:

Rectification	Description
1.5.1	The University has undertaken a full review of the fixed gas lines throughout all the laboratories across the University. This review has resulted in flashback arresters being put on all termination points and the replacement of all regulators flexi connection hoses. The second phase of this review is currently underway. This includes applying the Liquid Petroleum Gas (LPG) fixed line standard to all fixed lines, even when they do not carry flammable gasses such as LPG. Applying the standard involves pressure testing all lines on a regular basis and increased safety measures on both the start and end of the lines. Tracking of each of the fixed line components, such as the line, regulator, flashback arrestors, etc. are now asset tracked to ensure that replacement is done based both on age as well as ensuring that the regular condition assessments are recorded.
1.5.2	Following the incident, the University commissioned comprehensive laboratory audits to be undertaken. This resulted in a work programme in which significant quantities of unused chemicals were identified and disposed of over a three-month period. The ongoing audit processes were reviewed, and this has resulted in greater transparency of how the audits are done. Verification of the audits and escalation of any findings have been enhanced.
1.5.3	There has been broad communication with staff in forums, School meetings, and safety and wellness committee meetings about the incident and what occurred.

1.9 Detail any consultation with the victim(s) as to their views on whether an enforceable undertaking would be an acceptable alternative to prosecution

Injured person #1 - The person who was seriously injured by the incident has engaged a lawyer and progress has been made engaging with him, and his wife, with the assistance of his lawyer. Their view on this application as an acceptable alternative to prosecution has been sought and is pending.

They have also nominated a charity/foundation of their choice for a community donation from the University (see section 3.5) and reparations have been offered.

Injured person #2 – They have been consulted regarding the application for an enforceable undertaking. They support this application and advise that they consider it will create a better outcome and increased accountability in the wake of the incident. They have been an integral part of the drafting of this application and have provided direct and strong feedback about a number of activities, in particular activity 3.3.3. They will be part of the implementation of the enforceable undertaking once it is approved.

Injured person #3 - They have been consulted regarding the application for an enforceable undertaking. They did not provide an opinion as to the appropriateness of the application; however, they have supported a number of the activities. They have been an integral part of the drafting of this application and have provided robust feedback about a number of activities, in particular activity 3.3.3. They will also be part of the implementation of the enforceable undertaking once it is approved.

1.10 Detail any consultation with unions/sector/industry as to their views on whether an enforceable undertaking would be an acceptable alternative to prosecution

Union - the Tertiary Education Union | Te Hautū Kahurangi (**TEU**), through the Laboratory Technician Delegate and an Organiser, have been involved in the preparation of this application, including being part of the scoping and feedback phases. Their views on this application has been sought.

Sector – We have engaged with the University of Otago, Canterbury University, Auckland University and Te Pūkenga about the proposed activities outlined in section 3.4 and they have expressed their support for those activities.

The University will also consult with its partner institutions, Cardiff University and Newcastle University, and with Sydney University, to consult with them on whether there are other activities and initiatives that we could collaborate with them on to further improve our health and safety culture.

Industry - The University considers that the proposed activities at 3.4 would benefit other sectors that use gas cylinders and cryogenic gases either for research and/or for delivering services. We have consulted with some key Crown Research Institutes we have relationships with, including GNS and Landcare Research, who have advised this would be welcomed in that sector. The University has also consulted with the local Hamilton health and safety team of Te Whatu Ora and Draeger NZ. These consultations have indicated that there is support for the activities proposed by this application.

Beneficiaries - St John and Mātai Medical Research Institute have been consulted in relation to the donations proposed to be received by them. They are both in support of the donations offered as part of this undertaking.

3. ENFORCEABLE TERMS – Timeline: 3 years

The University of Waikato | Te Whare Wānanga o Waikato's Coat of Arms is Ko Te Tangata (*For the People*), which is carried over from the University's motto. This acknowledges our special character and reflects our philosophy that the University is *in, of and for the community*.

Ko Te Tangata is central to all work and activities at the University. This is reflected in our Charter, which recognises that part of what defines the University is the respect for staff and students and a commitment to their wellbeing. We take pride in the extent to which we reflect and serve the strengths and interests of Waikato as well as the present and future needs of New Zealand.

To do this, the University is committed to high standards, which includes setting and reaching high standards for the effective management of safety and wellbeing.

3.3 Activities to be undertaken to promote the objectives of the health and safety legislation that will deliver benefits for workers and/or work and/or the workplace

Under the University's Safety and Wellness policy, senior managers are responsible for implementing our safety and wellness system and for supporting managers in fulfilling their accountabilities and responsibilities across the areas of their portfolios.

Following some recent changes in the Safety and Wellness Team, the University has reviewed its health and safety governance and operational ecosystem and how they can be further supported to manage the shift from a past University culture, which was focussed on compliance and rule-based thinking, to a more developed work-focussed ecosystem that is more adaptable, recognising our diverse, variable and complex work, and centred on building capability and care for our workers and students.

To embed health and safety securely into our work and community, and to maintain a relentless focus on continuous improvement, the University has advertised for a new Safety and Wellness position. The focus of this position is geared to assist guiding us into a more significant leadership role Ko Te Tangata in, of and for the community and to support the University's commitment to a continuous learning environment while ensuring the delivery and implementation of high-quality safety and wellness strategy aligned with the University strategy and objectives.

Consideration of the hierarchy of controls is key to how risk is managed at the University, with a sustained focus on elimination where possible. This hierarchy of controls has been key in reviewing what activities for workers, community and industry (i.e. "*in, of and for the community*") will lead to long-lasting benefits and improvements to health and safety and to deliver higher standards and beneficial change.

The incident that caused the serious injuries and impact for Victim 1, and harm to Victims 2 and 3, was a science laboratory and gas related incident. The focus of this Application is on addressing higher standards and delivering change in addressing those factors.

3.3.1 Secondary Defences in Gas Detection

Estimated Cost: $75,000

Purpose: Commission a report to thoroughly scope what secondary defence controls can be implemented for working with gases

Background

Uses of gases and other hazardous substances is a necessary part of our work, teaching and research. While that activity cannot be eliminated, following the incident, we have undertaken reviews of laboratory practices, which has included matters such as HSNO compliance, management practices, teaching preparations, training, maintenance and controls/lines of defence.

Post the incident in July 2022, an updated assessment of engineering controls for all fixed gas systems at the University has been undertaken. Additional, robust engineering controls have now been implemented, which has included additional shut off valves, regulators, back flow preventers and flex line replacement.

We have more than 100 identified laboratories that may meet the technical definition of laboratory under the Health and Safety at Work (Hazardous Substances) Regulations 2017.

In many of the laboratories there are several gas detection systems in operation, and they are predominantly single gas portable handheld units. These units address a gas for one significant portion of the work; however, we want a review done of whether second line of defence systems, risk based towards the most dangerous gases, can be implemented to lift the controls up in the hierarchy for the work, teaching and research environment at the University.

Proposed activity

All aspects of working with gases on premises, in laboratories, or in the field, for the University work, study and teaching environment will undergo a complex assessment to address what gases and fumes are created as part of experiments, natural gases that may be encountered in the field, and gases that are commercially made and used/encountered so that advice can be provided on secondary defences available, appropriate and effective for our work.

Given the expertise and workload required to undertake the review and to deliver a scope this will have to be done externally.

Outcome

1. Completed Report recommending secondary lines of defence (additional controls) that can be implemented to further enhance safe work at the University.
2. Evidence of a minimum spend of $75,000 for the specialist report.
3. Evidence of consultation with relevant staff and interested parties (unions and health and safety representatives) on the Report findings.
4. Report presented to the University Council for its consideration.

3.3.2 Develop a Research and Field Work Planning and Preparedness Framework

Cost: $140,000

Time Frame: Three Years

Purpose: To develop a framework to enhance and enable innovative research and field work proposals that focus on planning and preparedness, leading to well-planned and safe work. This will result in research and teaching plans that have well developed plans at the outset rather than focusing specifically only on funding and academic outcomes.

Background

The University adheres to the concept of a university education that is, by definition, research led. The University's research strategy acknowledges the need for innovative research and, in collaboration with other research providers, to add value to the output of New Zealand's industries.

To maintain its competitive research profile, the quality, productivity, safety and wellbeing of academic staff and the other valuable workers and students who assist that work is vital.

Laboratory work is one important part of supporting science, engineering and health research and teaching. However, in discussion with the academic staff and lab technicians about improvements, as teaching and research is also done in the field and off campus, a robust yet simple framework will build more comprehensive and robust fieldwork capability for teachers and researchers.

Proposal: Develop a framework tool that addresses:

- ***Psychosocial harm management:*** training researchers (academics and students) to undertake a mandatory assessment of the proposed research project and timelines as part of the research.

  Building planning and preparedness into the full cycle of a research project and/or programmes will significantly reduce the risk of stress and burnout that can accompany research programmes if work and work effort and timeframes are underestimated. This is a pressure of work that can be minimised by incorporating project management planning tools and skills into its research and fieldwork.

- ***Lab work:*** planning in advance for the research tasks, the time required for them and most importantly the resources required, will minimise the risk of pressure on lab time and pressure on lab technicians.

- ***Field work:*** planning in advance for any field work is the single most productive way of ensuring that the health and wellbeing of those involved is protected. Risk based guidance and clarity on what physical, technological, engineering, substitution controls can be put in place prior to any field work will enhance the effectiveness and safety of work by academics, support staff and students.

Outcome:

1. Evidence of the creation of a Research and Field Work Planning and Preparedness Framework tool for research fieldwork.

2. Evidence of a minimum spend of external expert advice (to complement and peer review the internal expertise that will contribute to this activity, the cost of which is *not* included in this application) $140,000.
3. Evidence of a dissemination by being published on the University of Waikato website, whilst noting this is task specific to the University's activities.

3.3.3 Appoint Specialist H&S Technical Advisor (for the Te Aka Mātuatua | the School of Science and Te Kura Mata-Ao | The School of Engineering)

Scope and Develop a Role to Support

Purpose: Advance higher standards of health and safety for Te Aka Mātuatua | the School of Science and Te Kura Mata-Ao | the School of Engineering

Through consultation and engagement with workers (including with the Branch Organiser of the Tertiary Education Union (**TEU**), the TEU Delegate, Lab Technicians who were impacted by the incident, Technical Managers, and leaders of Te Aka Mātuatua) there has been strong advocacy for the creation of a specialist role/s to support them to lead and develop a cultural change in their ways of working while ensuring that compliance and above is achieved.

Explanation:

In reviewing this incident and understanding what can be done to ensure that an incident such as this never happens again, in the engagement and consultation process with representatives of Te Aka Mātuatua, they were asked what could be implemented to drive better work from a health, safety and wellbeing perspective.

A dominant feature of this feedback is that Te Aka Mātuatua representatives consider they will significantly benefit from a dedicated resource/s, either on a permanent or a fixed term basis, to enhance their safety performance and to improve their cultural approach to the management of health, safety and wellbeing.

Due to the nature of its work, Te Aka Mātuatua is managing compliance matters, however, the culture of how they work is something they want to enhance and improve on to drive better safe work. To continue in their leading research and advancements, compliance alone is not enough, an improved culture is required.

To do this, they have provided feedback that a technical specialist is needed to ensure that:

a. the non-negotiables of safe work in a lab environment get firmly embedded and strengthened, and
b. a cultural shift is achieved to change hierarchical ways of working.

The University has consulted with workers on the feedback from the panel about its original application and it has sought wider engagement on this revised application.

As part of this process, the Lab Technicians have provided valuable feedback on what would advance progressively higher standards of workplace health and safety for Te Aka Mātuatua | the School of Science and its workers and other persons. They have expressed a strong desire for what was activity 3.3.1 (Highly specialised and technical

support/advice) in the original application to remain as part of the Enforceable Undertaking.

Their feedback has been collected and collated by [redacted] and [redacted] and by [redacted] TEU Delegate. Their views on the reasons why this will advance higher standards of health and safety for the Te Aka Mātuatua | the School of Science has included -

- the role would be supporting one of the most hazardous workplaces in the University, which recently experienced an incident which resulted in serious harm … the proposed support is needed to ensure our culture of health and safety grows and develops.
- if we are hire the "right" person/s, they will be able to engage with staff in a way that “enhances our H&S practices and makes H&S something that only has a positive outcome for all of us”
- this will help us to better foster a safe workplace while supporting scientific and academic endeavours
- the role will facilitate a strong health and safety culture and can act as a mediator/facilitator between technicians and academics (responding to situations where academics may be perceived to be unresponsive to technician concerns)
- oversee lab audits to collaborate with teams to implement adjustments as recommended
- engage with workers and management to move beyond compliance to improve standards, “even if it involves challenging existing practices”
- the combination of theoretical knowledge with practical experience will assist in terms of developing solutions to work in the scientific and academic environment
- development of training and policies that confidently improve practices and prove consistency for Te Aka Mātuatua | the School of Science
- a dedicated resource for Te Aka Mātuatua | the School of Science will progress our health and safety culture

This activity has received strong support from Injured Persons 2 & 3 and the TEU. See **attached.**

Outcome

1. **Internal Cost**
   a. Draft and complete a job description, in consultation with Te Aka Mātuatua | the School of Science and Te Kura Mata-Ao | the School of Engineering representatives.
   b. Advertise and appoint a suitably qualified person/s to provide Health and Safety leadership to help shift the culture in the areas of Technical Health and Safety for Te Aka Mātuatua | the School of Science and Te Kura Mata-Ao | the School of Engineering.

3.3.4 Assess and Audit 100 Laboratories

This work will be undertaken with the support of two external consultants, one with a high-level science academic record and laboratory experience, and one with extensive health and safety and hazardous substance experience and who is HASANZ registered.

Estimated Cost: $155,000

Outcomes

1. Complete an assessment of the 100 identified laboratories and determine which of them are a laboratory under the Health and Safety at Work (Hazardous Substances) Regulations 2017.
2. Compete above and beyond compliance audits of the laboratories to lift performance to Laboratory Best Standards and obtain a report/s detailing:
   i. HSNO requirements
   ii. Planning Practices
   iii. Review (error and excellence) Practices

3.3.4 Complete Safety Culture Surveys

Estimated Cost: $45,000

Outcome

Complete a safety culture survey and obtain a report (results) for Te Aka Mātuatua | the School of Science and Te Kura Mata-Ao | the School of Engineering in each of the three years of the EU.

3.4 Activities to be undertaken to promote the objectives of the health and safety legislation that will deliver benefits for the wider industry or sector

3.4.1 Development of a Gas Cylinder and Cryogenic Gasses Training and Competency Programme.

Estimated Cost: $100,000

Purpose: To ensure optimal standards to support quality laboratory work.

Background

Prior to the incident, the University had introduced for its workers an online e-training model for the safe use of compressed gasses. This training was developed in the UK.

The University purchases this online training from the UK, as recommended by their gas supplier BOC (which supplies compressed and bulk gases, chemicals and equipment around New Zealand). The training has resulted in an increased awareness and understanding of gases within the laboratories.

However, there is currently no New Zealand specific training or competency programme that we are aware of.

Following consultation with the Universities of Otago, Canterbury and Auckland, Te Pūkenga, GNS, and Landcare Research, there is support for a programme to be developed that is specific to New Zealand, its users, and specific uses.

The University of Otago, Canterbury University, Auckland University, and Te Pūkenga, have agreed to be part of the development of a training and competency programme that is specific to New Zealand and its practices.

We will engage a specialist learning and development company to develop and create the course that reflects the New Zealand learning environment. The objective is to ensure that workers who complete the programme will have a robust understanding of the themes outlined in the current Laboratory Code of Practice, including Safe Methods of Use, Contamination Prevention, Exposure Management, Disposal and Emergency Response, and be able to show that there is a practical competency level.

Living by Ko Te Tangata, the programme will made available to tertiary education institutions, along with Crown Research Institutes and other applicable sectors.

The activity will be externally produced.

Outcomes:

1. A completed course programme applicable to New Zealand requirements.
2. Evidence of the completed course being shared and made available to applicable tertiary education institutions and Crown Research Institutes.
3. Evidence of a minimum spend of $100,000

3.4.2 Risk assessment tool for gas detection systems that can be used in teaching and research laboratories and field work

Cost: $120,000

Purpose: Develop and promulgate a practical guide/workbook for the effective and safe detection of gases use to assist workers and students when in a teaching or research environment in the field or laboratory.

Background

Different gases are regularly used or created in teaching and research laboratories. Understanding what gases are present and what equipment to use to effectively and safely monitor them can be complex. Technology in this area can be complicated; for example, it is rare that there is a sensor that only monitors one gas.

Further, field work for teaching and/or research can involve complex environments such as swamps or volcanoes: not all detection equipment is built for gases occurring in the elements.

Following consultation with leading gas detection equipment manufacturers and CRIs, support has been provided for the development of an assessment tool to ensure that the correct detector (control) is selected and used safely in the right environment.

Outcome

1. Completed development of a gas detection toolbox/guide (similar to the Hazardous Substances Toolbox https://hazardoussubstances.govt.nz/guide/)
2. Evidence of a minimum spend of $120,000 on external provider/s (this is an additional cost to the internal expert costs that are not included in this application)
3. Evidence of the completed course being shared and made available to applicable tertiary education institutions and Crown Research Institutes.

3.5 Activities to be undertaken to promote the objectives of the health and safety legislation that will deliver benefits for community

3.5.1 Donation to Mātai Medical Research Institute

Cost: $20,000

Background:

Injured Person 1 has nominated Mātai Medical Research Institute to receive a donation.

Outcome

Payment of $20,000 to the Mātai Medical Research Institute within 2 months of the EU being executed.

3.5.2 Donation to St John towards Critical Care Paramedic Internship

Cost: $30,000

Background:

St John's has advised us that the Critical Care Paramedic (**CCP**) role is one of the most specialised and crucial positions within their organisation. These paramedics attend to high-acuity patients outside of the hospital, representing the pinnacle of clinical careers for paramedics. CCPs also serve as clinical leaders, mentors, and role models, auditing and debriefing clinical incidents and engaging in clinical discussions to enhance the knowledge of their peers.

CCPs have authority to perform advanced airway interventions and other lifesaving invasive procedures independently. Candidates for this role undergo extensive training, including postgraduate studies followed by a demanding year-long internship. This internship includes six months of mentorship under an experienced CCP, and six months of independent practice under close scrutiny.

The internship process for each CCP costs St John over $80,000. They have advised us that the donation will help to offset the expenses of the latest CCP intern at Hamilton Station. This contribution will play a crucial role in ensuring that St John can continue to train highly skilled paramedics who are essential for providing top-tier emergency medical care.

Outcome

Payment of a $30,000 donation to St John's within two months of the EU being executed.