

**ENGINEERING &
TRADES BUILDING
(G BLOCK)
EMERGENCY
RESPONSE
PROCEDURE**



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PROCEDURE

Rotokauri Campus
51 Akoranga Road
Hamilton

1 Contents

2	Purpose	2
3	Definitions	2
4	Responsibilities.....	3
5	Key Contacts.....	4
6	Site Evacuation	5
7	Emergency equipment	7
7.1	Fire extinguishers	7
7.1.1	Fire extinguisher types	7
7.1.2	Use of Fire Extinguisher	7
7.2	Sprinkler System	9
7.3	Gas Lab Emergency stop and restoration of control	9
7.4	PPE	10
8	Gas leak/fire response	11
8.1	Acetylene and LPG	11
8.1.1	Gas Leak	11
8.1.2	Fire	12
8.2	Natural gas and LPG	13
8.2.1	Gas leak in gas teaching lab	13
8.2.2	Natural gas and LPG Fire in gas lab	13
8.3	After hours procedure	14
8.4	Flashback to an acetylene cylinder	14
8.4.1	Identifying a Flashback has occurred –	14
8.4.2	Actions to take if a Flashback occurs –	14
9	First aid.....	15
10	Precautions.....	16
11	Emergency Response Plan Testing.....	17

2 Purpose

To ensure all staff, students and others on the worksite know and understand what to do in the event of a Liquid Petroleum Gas (LPG), acetylene, or natural gas leak/fire. That there are effective procedures in place in the event of an emergency occurring at Wintec Rotokauri Campus and that the emergency response procedures are followed in the event of an emergency situation.

3 Definitions

- **Approved Handler** - Person who holds a current test certificate certifying that the person has met the requirements of the HSNO Regulations in relation to using/handling hazardous substances for one or more hazardous substance classifications. A person who holds this type of test certificate has met competencies specified in the hazardous Substances (Personnel Qualifications) Regulations 2001.
- **Head Building Warden, Deputy Building Warden or Floor Warden** – Person who has specific responsibilities during an evacuation of a building during a fire emergency and has completed training in fire emergency evacuation procedures.
- **First Aid Certificate Holder** – Person who holds a current First Aid Certificate issued by an organisation accredited by the New Zealand Qualifications Authority, valid for two years.
- **Vault** – Wintec’s computerised Health and Safety database system. The Vault contains details of first aiders and fire extinguisher training.
- **FlashBack** – is a return of flame through the blowpipe or even the regulators. It may also reach the acetylene cylinder causing heating and explosive decomposition of the contents. A flashback may be caused by faults in the equipment and/ or poor procedure. In most cases a flashback does not travel beyond the cylinder neck¹.

¹ www.boc-gas.co.nz

4 Responsibilities

This section describes the responsibilities of various personnel in this emergency plan.

Approved Handlers

Approved handlers are certified to handle hazardous substances safely. An approved handler should be available to provide guidance and assistance to other people handling the substances.

Building Warden

The Building Warden oversees the evacuation of the building by receiving and recording the reports from the floor wardens and conveying this information for the officer in charge of the first arriving Fire Appliance. Building Wardens are identified by an Orange hi-vis vest.

Duty Technicians

The duty technicians are to be notified in the event of an emergency. The approved handlers are also duty technicians.

Emergency Services

The emergency services such as the fire service, the police and the ambulance will respond to incidents using their trained personnel and specialised equipment.

Floor Warden

Floor wardens oversee the evacuation of all staff and visitors from the floor or designated area to the assembly point and report to the building warden the status of the evacuation. Floor Wardens are identified by a Yellow hi-vis vest.

Wintec Security

Wintec security operate 24hrs and respond to gas leak and fire alarms after hours.

Facilities Manager

In the event of an emergency after hours such as a fire or gas leak alarm; Wintec security will contact the Facilities Manager.

Executive Team

Wintec has an Emergency Procedure and Critical Incident plan. The Emergency procedure and Critical Incident Plan will be implemented in the event of an emergency/incident. A rostered member of the Executive team will then take responsibility of the emergency/incident.

5 Key Contacts

Emergency Contacts	Name	Phone (Day)	Website	Local Number
Emergency services	Fire Service	111		07 839 4996
Emergency services	Ambulance	111		
Emergency services	Police	111		07 858 6200
Emergency services	Poison Centre	0800 764 776	http://www.poisons.co.nz/	
Campus Security	Wintec Security	0800 852 900		
Approved handlers/Duty Technicians	Mobile	Certificate No.	Expiry	Classes
Paul Woodgate	021 940 593	A10385-2	20/10/2020	2.1.1A, 3.1A, 3.1B
Chris Mitchell	021 530 163	A10387-2	20/10/2020	2.1.1A, 3.1A, 3.1B
Site and Company Contacts	Name	Phone (Day)	Phone (After Hours)	Mobile
Facilities Manager	Jeff Lukin	07 834 8889		021 0240 1198
Operations Manager	Matt Williams	07 834 8800 Ext. 3807		021897351
Group Director (Trades)	Shelley Wilson	07 834 8800 Ext. 8724		021391033
Gas Suppliers	Supply	Phone (Day)	Phone (After Hours)	Mobile
Genesis	Natural Gas	0800 600 900		
BOC	Gas Cylinders	0800 111 333		
Neighbours	Name	Phone (Day)	Phone (After Hours)	Mobile
Tristar Group	Toni Hamlin			027 414 8018

Next of Kin details

Staff and Student details are located on HR21 and Arion

First Aiders Details

Details in Vault (H&S Database system)

Wintec Security can be contacted for first aider details

6 Site Evacuation

In the event of a fire alarm the site will be evacuated as per the **Wintec Rotokauri Trade Centre Evacuation Scheme**.

Emergency assembly points have been assigned (Figure 1). When the alarm is sounded the wardens will ensure a swift safe exit of all staff, students, and visitors to the campus. Evacuees from G Block will assemble on the grassed area/carpark by RK Hub (Figure 2). This location is sign posted as an assembly point.

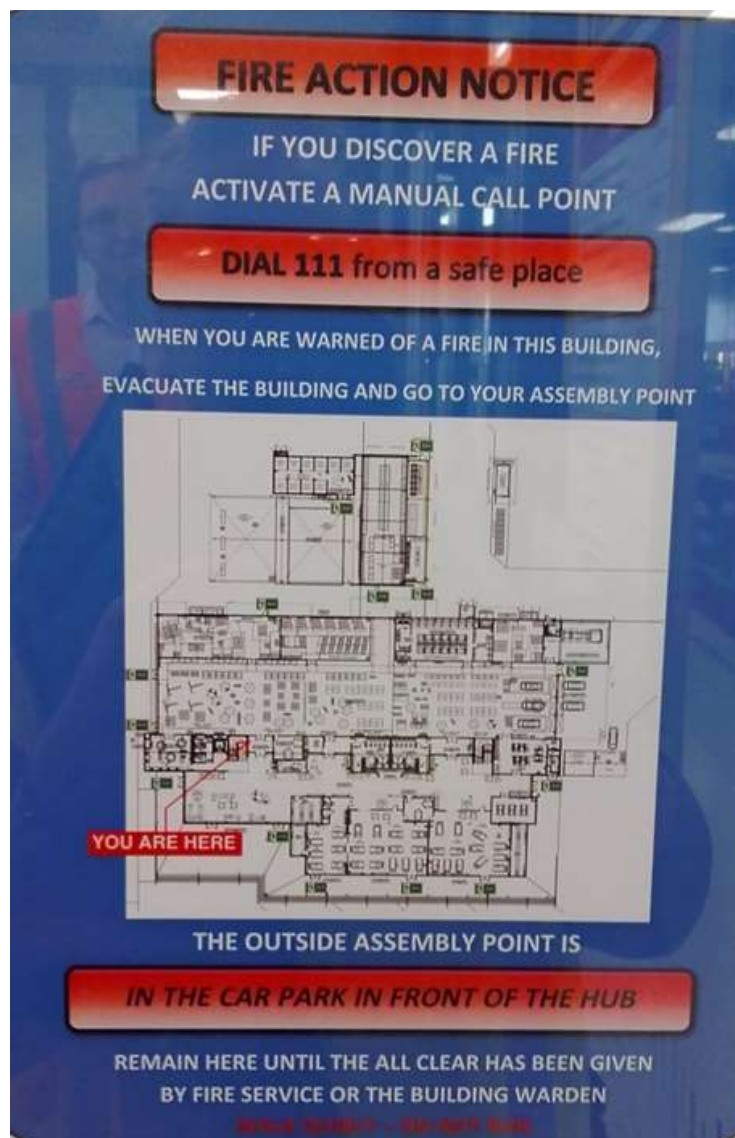


Figure 1: Site evacuation plan for G Block Teaching Workplace

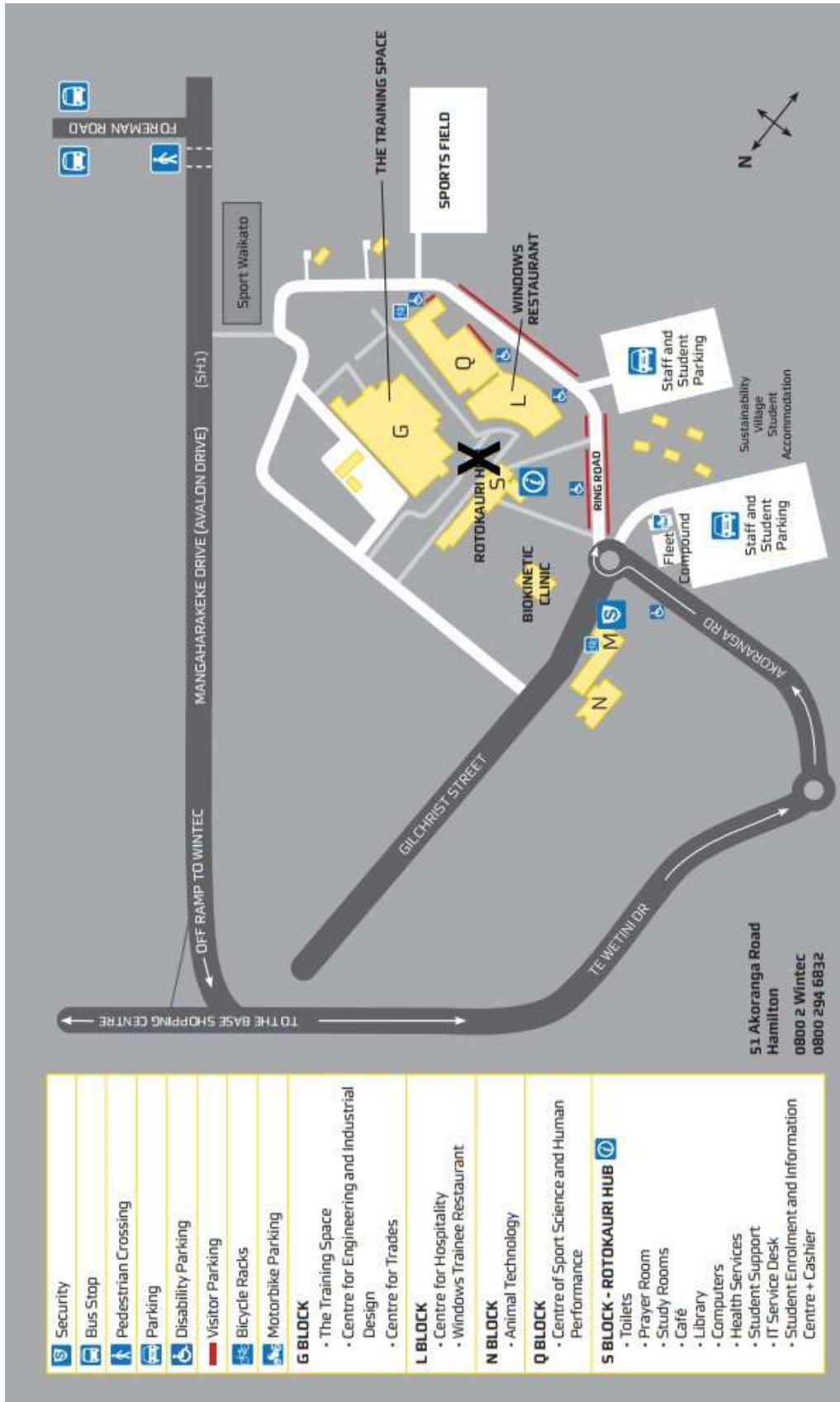


Figure 2: Wintec Rotokauri campus map, black X indicates approximate emergency assembly point.

7 Emergency equipment

7.1 Fire extinguishers

Dry Powder (ABE) fire extinguishers are located in all hazardous areas of Block G (Figure 3).

7.1.1 Fire extinguisher types

Reference: <http://www.allfiresafety.co.nz/fire-extinguishers/>

✓✓ - Most effective extinguisher.

✓ - Limited extinguishing capability

✗ - Dangerous to use.

Table 1: Which fire extinguisher to use in relation to fuel type

Fire Type \ Extinguishers	Foam	CO2	Dry Powder (ABE)
Class A (paper, textiles, wood, plastic, rubber)	✓	✓	✓✓
Class B (flammable & combustible liquids)	✓✓	✓	✓✓
Class C (flammable gases)	✗	✓	✓✓
Class D (combustible metals)	✗	✓	✗
Class E (electrically energized equipment)	✗	✓✓	✓
Class F (cooking oils & fats)	✓	✓	✗

7.1.2 Use of Fire Extinguisher

1. Make sure fire extinguisher is of correct type.
2. Break the seal / remove safety pin
3. Carry the fire extinguisher to the fire.
4. Keep yourself low to reduce the effect of heat and smoke. Always keep between the fire and your escape route.
5. When in position, aim the extinguisher at the base of the flames.
6. Discharge the extinguisher in a sweeping motion across the base of the flames.
7. Keep going until you have completely extinguished the fire.

If the fire becomes uncontrollable, or there is too much heat / smoke, leave immediately.

Note: Always keep between the fire and your escape route

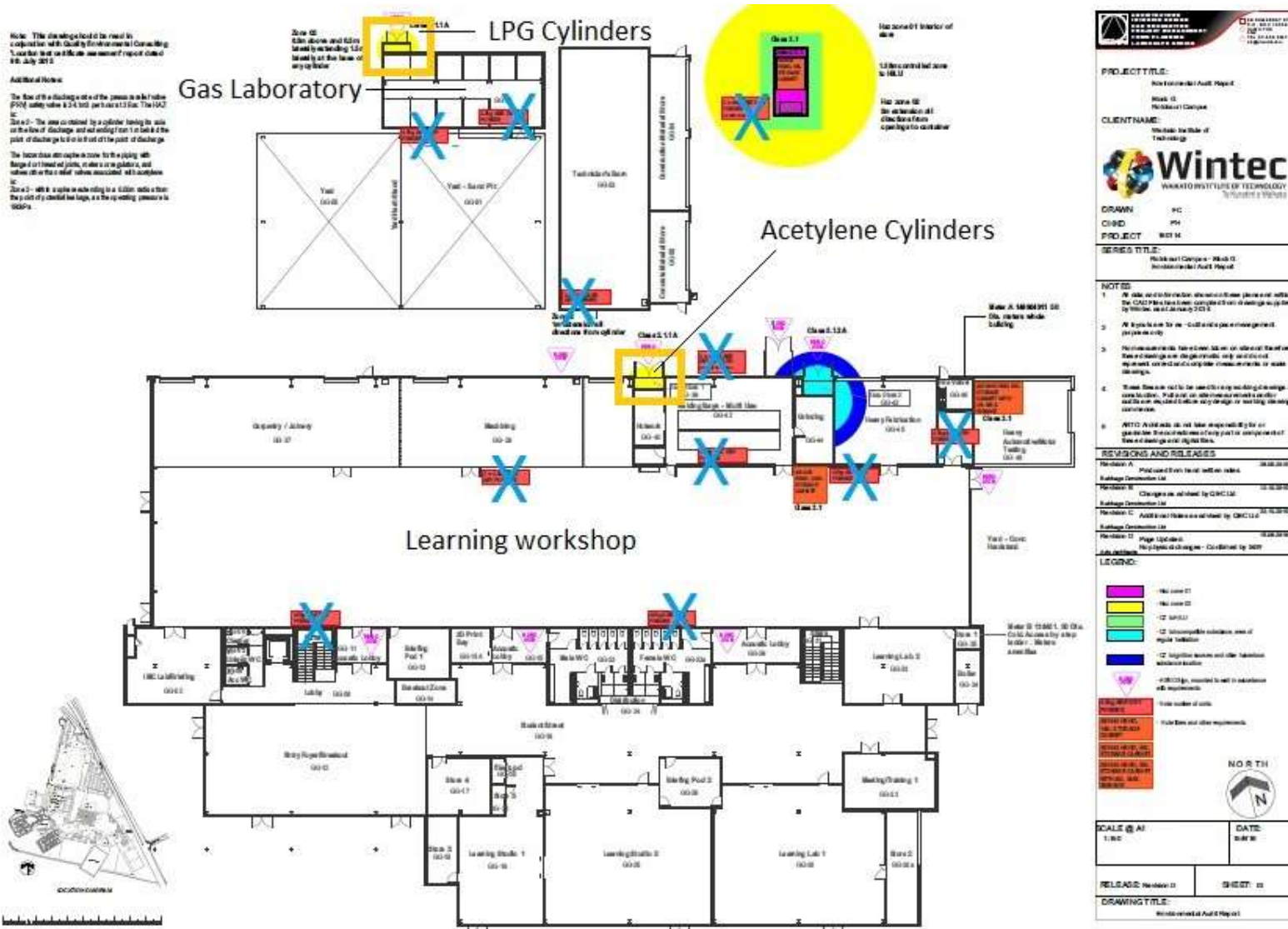


Figure 3: Location of fire extinguishers in G Block Rotokauri Campus (blue Xs)

7.2 Sprinkler System

Automatic sprinkler systems are located in G Block.

7.3 Gas Lab Emergency stop and restoration of control

In the event of a gas leak or fire the Gas Alarm system will activate. Follow procedures on the wall of the Gas Laboratory. Each coloured light represents a particular gas malfunction/leak (Figure 4).



Figure 4: Gas Alarm system, located in the Gas Laboratory (Figure 3). The lights will alert to type of emergency.

The gas alarm status levels are as follows:

COLOUR	GAS
Orange	Methane (Natural Gas)
Red	Propane / LPG
Green	Carbon Monoxide (5ppm)
Blue	Oxygen (19.5%)



Figure 5: Emergency gas shut off system located in the Gas Laboratory (Figure 3).

In the event of a gas alarm the gas may be shut off by pressing the two E stop buttons in Figure 5.

Note: The system can only be livened back up by following the start-up procedure located in the gas lab. This may only be carried out by a certified gasfitter authorised by Wintec.

7.4 PPE

When handling gas such as LPG and Acetylene safety glasses, insulated or leather gloves and safety boots should be worn.



PPE can be obtained from the tech shed as required.

8 Gas leak/fire response

8.1 Acetylene and LPG

8.1.1 Gas Leak

- If you can smell gas, hear gas leaking (hissing sound) or the gas supply is suddenly interrupted this may indicate a gas leak.
- LPG has a strong pungent smell, while acetylene can be identified by a garlic like odour. LPG is heavier than air, and acetylene is lighter than air.
- Don PPE, safety glasses, leather/insulated gloves and safety boots, and shut off leak, *if safe to do so* (Refer to **Error! Reference source not found.** and 7 for manifold shut off).
- Ensure the area is adequately ventilated by opening doors and windows, *if safe to do so.*
- Prevent gas leak from entering sewers, drains and workpits, or any place where gas accumulation can be dangerous.
- Notify an approved handler and Duty Technician.
- Eliminate all sources of ignition.
- If there is any possibility of a cylinder catching fire or the gas leak cannot be stopped by closing the cylinder valve raise the alarm and contact the emergency services on 111 notify of gas leak and provide the site address:
 - G Block
Wintec Rotokauri Campus
51 Akoranga Road
Hamilton
- Do not hang up until told to do so by the emergency service.
- Make sure someone is sent to the front gate to direct the emergency services to the scene.
- Evacuate the buildings and assemble in designated assembly points.
- Provide first aid to injured persons if required.
- Inform the manufacturer or supplier of the leak. Do not use gas manifold/cylinder again until it has been inspected.



Figure 6: Acetylene shut off valve (Location: Figure 3). To shut off position grey lever (circled) to a 90° angle to its current position *if safe to do so*.

8.1.2 Fire

- In the event of a fire raise the alarm and call the emergency services on 111 notify of fire, type of fire and provide the site address (fire alarm panels are connected to the Fire Service via ADT Monitoring):
 - G Block
Wintec Rotokauri Campus
51 Akoranga Road
Hamilton
- Do not hang up until told to do so by the emergency service.
- Make sure someone is sent to the front gate to direct the emergency services to the scene.
- Notify the Duty Technician.
- Evacuate the buildings and assemble in designated assembly points.
- Isolate the risk by shutting off the gas supply on the emergency shut down located in the Gas Laboratory (Figure 5) *if safe to do so*.
- Provide first aid to injured persons if required.
- Do not approach a cylinder that is on fire or suspected to be hot as they may be an explosion risk.
- Only extinguish the flame if absolutely necessary, using a dry chemical powder extinguisher.
- *If safe to do so* remove other cylinders from the area surrounding the fire.
- Inform neighbours about the nature of the fire (what is burning, size of fire, is an evacuation needed). See section 5 for contact numbers.

8.2 Natural gas and LPG

8.2.1 Gas leak in gas teaching lab

Natural Gas and LPG are reticulated in and used in the gas teaching lab and in the event of an onsite leak or emergency, the following actions need to be followed:

- If you can smell gas, hear gas leaking (hissing sound) or the gas supply is suddenly interrupted this may indicate a gas leak.
- Natural gas can be identified by a rotten egg or sulphur like smell and LPG has a strong pungent smell.
- If you identify a gas leak on entry into a room, especially if it has been unoccupied for a long period, LEAVE the area immediately, closing the doors quietly behind you.
- If the gas alarm sounds in the gas lab, the lights will alert to type of emergency (refer section 7.3).
- *If safe to do so*, isolate the risk by pressing the Emergency Stop buttons located inside the Gas Laboratory on the right hand side (Figure 5).
- Initiate Evacuation by activating Fire Alarm.
- Contact the emergency services on 111 notify of gas leak and provide the site address:
 - G Block
Wintec Rotokauri Campus
51 Akoranga Road
Hamilton
- Do not hang up until told to do so by the emergency service.
- Make sure someone is sent to the front gate to direct the emergency services to the scene.
- Evacuate the buildings and assemble in designated assembly points.
- Notify an approved handler and duty technician.
- Eliminate all sources of ignition.
- Prevent gas leak from entering sewers, drains and workpits, or any place where accumulation can be dangerous.
- Provide first aid to injured persons if required.
- Contact natural gas provider. Do not use gas until the source of the leak has been determined and resolved.

8.2.2 Natural gas and LPG Fire in gas lab

- In the event of a fire raise the alarm and call the emergency services on 111 notify of fire, type of fire and provide the site address (fire alarm panels are connected to the Fire Service via ADT Monitoring):
 - G Block
Wintec Rotokauri Campus
51 Akoranga Road
Hamilton
- Do not hang up until told to do so by the emergency service.
- Make sure someone is sent to the front gate to direct the emergency services to the scene.
- Notify the duty technician.
- Isolate the risk by shutting off the gas supply on the emergency shut down located in the Gas Laboratory (Figure 5 & **Error! Reference source not found.****Error! Reference source not und.**) *if safe to do so*.
- Shut down potentially dangerous machinery, *if safe to do so*.

- Evacuate the buildings and assemble in designated assembly points.
- Only extinguish the flame if absolutely necessary, using a dry chemical powder extinguisher, *if safe to do so.*
- Inform neighbours about the nature of the fire (what is burning, size of fire, is an evacuation needed). See section 5 for contact numbers.

8.3 After hours procedure

If the gas detection alarm system is triggered outside of workhours the security team is notified. The security team will contact the Facilities Manager.

8.4 Flashback to an acetylene cylinder

8.4.1 Identifying a Flashback has occurred –

- Audible pop or muffled gunshot sound.
- Hot spot on the cylinder.

8.4.2 Actions to take if a Flashback occurs –

- Close both blowpipe valves – oxygen first.
- Close both cylinder valves.
- Check the acetylene cylinder shell with bare hand for a rise in temperature. If hot or glowing, evacuate the area immediately and take actions as per section 8.1.2.
- If the temperature of the acetylene cylinder shell **rises**:
 - Inform the manufacturer or supplier and do not use gas cylinder again until it has been inspected.
- If the temperature of the cylinder shell **does not rise**:
 - Unwind the pressure adjustment screw on each pressure regulator.
 - Check that the nozzle is not damaged and that it is tight.
 - If the blowpipe is overheated, plunge it into cold water.
 - Carry out the start-up procedure as recommended by the equipment supplier,
 - If flashback recurs immediately, the blowpipe/nozzle may be faulty and should not be used again. Follow actions to take if a flashback occurs.

9 First aid

First aid equipment is located at designated locations around G block. There are eye wash and hand wash stations located outside the gas lab and in G block.

If there is a serious medical emergency call the emergency services on 111 and request an Ambulance, notify of type of medical emergency and provide the site address:

- G Block
Wintec Rotokauri Campus
51 Akoranga Road
Hamilton

Cold Burns

Exposure to LPG may result in cold burns which may be treated as follows:

Eye

- Contact a trained first aider if required.
- For a cold burn to the eye immediately flush with tepid water or with sterile saline solutions while holding eyelids apart for at least 15 minutes.
- Seek medical attention.

Skin

- Contact a trained first aider if required.
- For a cold burn to the skin remove contaminated clothing and flush affected area with cold water for 15 minutes.
- Apply sterile dressing and treat as a thermal burn.
- For a large cold burn immerse in cold water for 15 minutes.
- DO NOT apply any form of direct heat.
- Seek immediate medical attention.

Note: Acetylene and natural gas are not expected to have any adverse effects to the skin or eyes.

Inhalation

A person who suffers from adverse effects following the inhalation of acetylene, LPG or natural gas may be treated as follows:

- If safe to do so while not putting yourself at risk, remove person from contaminated area.
- Contact a trained first aider;
 - Check breathing
 - If not breathing perform CPR
 - If a person is breathing but unconscious, turn them onto their side
 - Clear airway of obstructions, such as tongue or vomit
 - Seek medical help, if necessary.
- Be aware of possible explosive atmospheres.
- Apply artificial respiration if not breathing, or give oxygen if available.

Symptoms

In low concentrations gas may have a narcotic effect, with symptoms such as dizziness, headaches, nausea and loss of co-ordination.

In high concentrations gas may cause asphyxiation. Symptoms include loss of mobility/consciousness, where the victim may not be aware of asphyxiation.

10 Precautions

- Do **NOT** endanger yourself.
- Make sure you have an escape route.
- Keep hands and face clear of any escaping gas or liquid.
- **NO SMOKING:** Keep ignition sources at least 20m away from the affected area until it has been inspected and cleared by qualified personnel.
- Do **NOT** use equipment again until it has been inspected and passed for use by a suitable qualified person.
- Do **NOT** leave the site unattended if there is a risk of a further leak.
- Isolate area until all clear given.
- Wear appropriate personal protection equipment. (Refer Section 7.4)
- Avoid breathing vapour and any contact with liquid or gas.
- Do **NOT** enter confined spaces where gas may have accumulated.
- Clear area of personnel.
- Avoid contamination with oxidizing agents i.e. nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as ignition may result.

11 Emergency Response Plan Testing

In accordance with Regulation 33 of the Hazardous Substances (Emergency Management) Regulations 2001 this plan must **be tested at least every 12 months**. The records of each test must be kept for no less than two years from the date of testing. The training drills must have evidential proof. Proof of training is to be in written report with findings and improvements with photographic proof that training took place.

If there is a change to the persons, procedures, or actions specified in this emergency response plan the plan must be tested within 3 months of the change. The test must demonstrate that-

- (a) The changed persons can perform their functions under the plan; and
- (b) Each changed procedure or action is workable and effective.

An emergency response plan testing in this area can consist of;

- Cylinder failure – odourised gas leak
- Cylinder seal failure – odourised gas leak
- Valve failure – odourised gas leak
- Piping or flange leakage – odourised gas leak
- Hose leakage – odourised gas leak
- Accidental release – odourised gas leak
- Vehicle accident – odourised gas leak/fire/explosion
- Fire
- Unintended ignition from tools, electrical devices – fire explosion
- Static discharge – fire explosion

These events can trigger a leak of odourised gas, an explosion or fire from unintended ignition sources such as vehicle engines, electrical apparatus, and static discharge. First indications of an emergency could be:

- An explosion
- The sound of the alarm and visual warning of a flashing red light
- The sound of high pressure gas escaping
- Vapour cloud

The testing of the gas emergency response plan may be conducted separately or in conjunction with the sites routine evacuation testing.

Record of Emergency Response Plan Testing			
Details of Emergency response plan testing	For Year	Date completed	Written debrief report has been filed to be retained for at least 2 years
	2016		
	2017		
	2018		
	2019		
	2020		