

Jemena Limited

Kendall Bay Sediment Remediation

Emergency Management Plan

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1. INTRODUCTION

1.1 DEFINITION OF AN EMERGENCY

An emergency is defined as any hazardous or potentially hazardous situation presenting danger to personnel, property, ongoing business operations or the environment.

1.2 CONTEXT OF THIS PLAN

This Emergency Management Plan has been prepared during the planning phase of the remediation project. The project team is currently located in the Jemena North Sydney office and occasionally meet at the Mortlake site office, at Tennyson Road (the Staging Site).

During the active full scale remediation work, the workforce will increase to 20-30 personnel and include use of heavy plant and equipment and therefore the potential emergency scenarios will change and become more complex.

Jemena will engage a remediation contractor to carry out the full scale sediment remediation works. This remediation contractor will be the Principal Contractor under the NSW Work Health & Safety Act and Regulations 2011. The project will then be governed by the remediation contractor's emergency management plan.

The current plan provides an overview of the planning and management that Jemena expect for emergency management during the remediation works.

1.3 PURPOSE

The purpose of this Plan is to outline the process that Jemena, through the remediation contractor, will use for effective planning and management of impacts from potential emergencies on persons, the project and neighbouring areas.

Effective emergency management is achieved by:

- Identifying potential foreseeable scenarios and define appropriate actions and responses relevant to the type of emergency and resources available;
- Providing a basis for training personnel in the handling of emergencies, so that a high level of awareness can be continually maintained, and to provide a model for emergency procedures;
- Outlining a coordinated response and communications in the event of a foreseeable emergency and to provide for appropriate assistance from external emergency services (Police, Fire & Rescue and Ambulance).

The Plan is intended for use by Jemena and remediation contractor project personnel and it will contain personal contact information. It is not intended for the public, who will be informed of emergency events and who can dial '000' or the relevant government agencies if they observe an emergency, without the need for this Plan.

1.4 THE PROJECT

Kendall Bay is located approximately 10km west of Sydney's Central Business District. It is on the southern side of the Parramatta River in the City of Canada Bay Local Government Area, between the suburbs of Cabarita and Breakfast Point (adjacent to the site of the former Mortlake Gasworks). Ownership of the bed of Kendall Bay is vested in NSW Roads and Maritime Service.

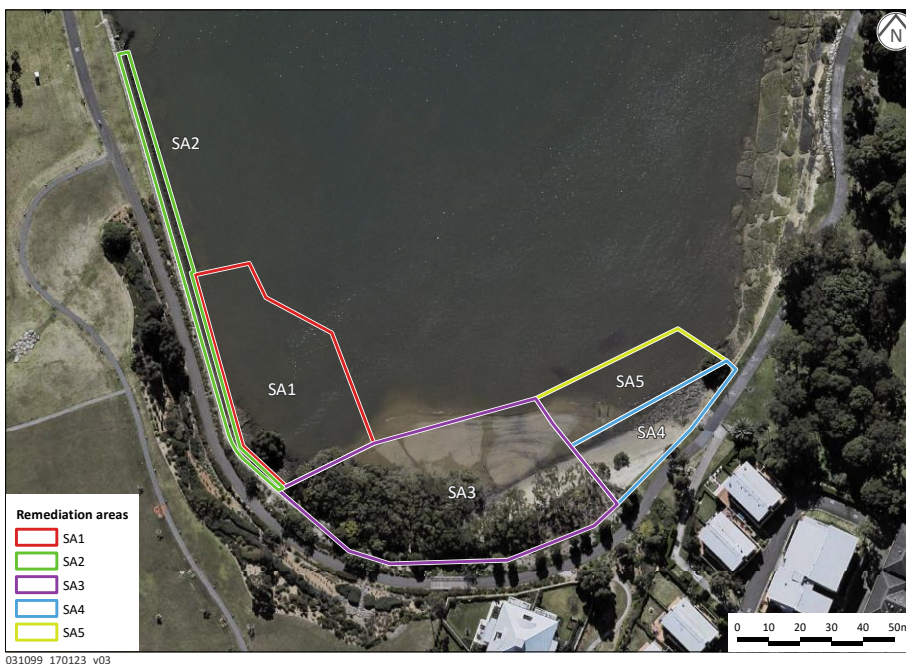
The Mortlake gasworks was operated by The Australian Gas Light Company (AGL). Responsibility for legacy contamination of the bay (associated with the gasworks operations) subsequently passed to Jemena.

Sediments in certain areas of the bay are contaminated primarily as a result of industrial discharges associated with historical operations at the former AGL gasworks where production of gas from coal commenced in 1886 and ceased in 1971. The primary contaminant is coal tar. The land-side gasworks site was remediated between 1999 and 2002, has subsequently been redeveloped, and is now known as the residential suburb of Breakfast Point.

With the completion of remediation at Breakfast Point, the NSW Environment Protection Authority (EPA) focused on contaminated sediments within areas of Kendall Bay.

The Remediation Action Plan (RAP) governs the remediation works for the site. The works entail remediation in two areas, referred to as the Southern Remediation Area and Northern Remediation area as described below.

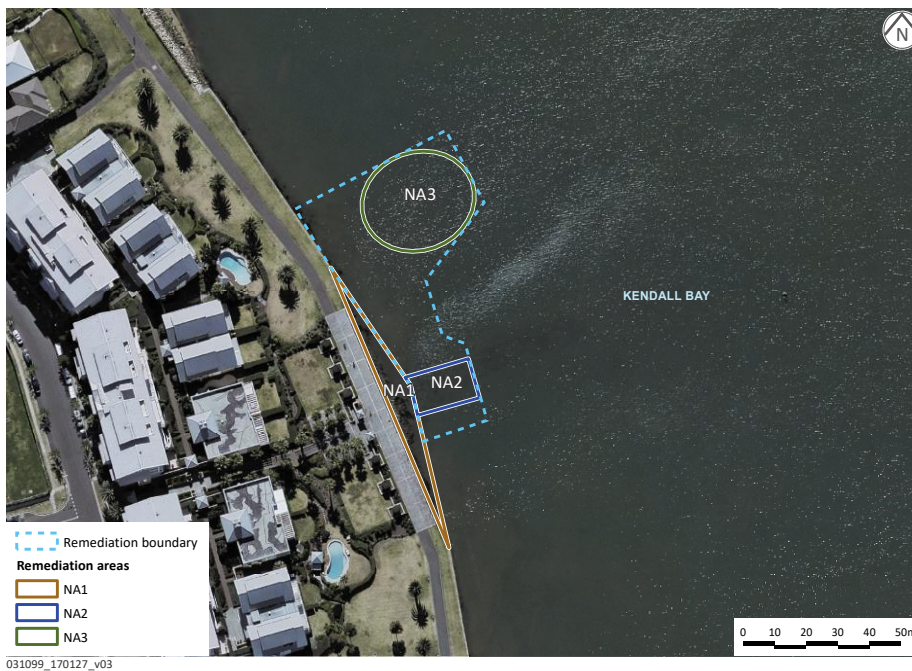
Southern Remediation Area



- SA1 – in-situ stabilisation of contaminated sediments by addition of cement and other additives, remove upper layer of treated material for off-site disposal and add clean capping layer
- SA2 – remove surface stained materials and rubbish and replace with clean crushed rock and clean sand
- SA3 – remove coke and coal from upper sand layer and spread clean sand, train stormwater flows through mangrove stand

- SA4 – extend existing sandstone wall to stabilise beach sands, remove coke and coal from upper sand layer and replenish beach sand
- SA5 – remove coke and coal from upper sand layer and clean layer of sand

Northern Remediation Area



- NA1 – remove surface stained materials and rubbish, replace with clean crushed rock and clean sand
- NA2 and NA3 – in-situ stabilisation of contaminated sediments by addition of cement and other additives, remove upper layer of treated material for off-site disposal and add clean capping layer

Tennyson Road (Staging Site)

The stabilised excavated materials will be barged to Jemena's Tennyson Road premises in sealed containers and trucked to off-site facilities for further treatment (if required) and then disposal to a landfill.

Plant and Equipment

Plant and equipment expected to be required for the remediation work within Kendall Bay includes barge mounted deep sediment mixing equipment, barge mounted batching plant, amphibious excavator and an excavator mounted on a barge. Excavated materials in sealed containers will be transported to the Tennyson Road premises via barge.

The main equipment at the Tennyson Road premises will be for unloading the sealed containers from the barges and loading these on trucks for transportation to off-site facilities for further treatment (if required) and disposal to a landfill.

Specific details of the plant and equipment will be provided in the Remediation Works Plan (RWP) to be prepared by the remediation contractor following the detailed design.

1.5 THE SURROUNDING AREA

The surrounding area includes the following land uses and characteristics:

- The western shoreline of Kendall Bay is a constructed shoreline with a foreshore walkway overlooked by medium density residential development (Breakfast Point) on the former AGL gasworks site;
- The southern shoreline is an intertidal beach with mangroves, overlooked by residential units and the Breakfast Point Country Club;
- The eastern shoreline includes rock outcrops and smaller pockets of mangroves, Cabarita Park and the Cabarita Ferry Wharf;
- The Parramatta River is used by a diverse mix of both powered private and commercial, and unpowered vessels such as small yachts and canoes. Large passenger ferries also operate along the river between the Sydney CBD and Parramatta; and
- The Tennyson Road premises is adjoined by the Parramatta River to the north and north east, light industrial buildings to south and west, and residential dwellings generally located slightly beyond the marina.

2. ROLES AND RESPONSIBILITIES

2.1 REMEDIATION CONTRACTOR

To ensure a coordinated and systematic response to an emergency situation, it is envisaged that the remediation contractor will have the following management hierarchy:

- Chief Warden (the contractor's site manager)
- Area Warden – On Shore (the manager of the Tennyson Road premises activities)
- Area Warden – On Water (the supervisor of the stabilised excavation, barges, etc)
- Emergency Warden (a person to whom responsibilities are delegated to assist the Chief Warden)

The Chief Warden is in charge of managing an emergency and has overall responsibility for all functions performed by project personnel during an emergency.

The responsibilities of the Chief Warden during the period of any emergency are to prioritise and then coordinate the following activities:

- Assign persons to assist as required;
- Protect people on site and off site;
- Search and rescue of missing people;
- First aid and medical attention for those who require it;
- Control access;
- Facility emergency response;
- Damage control;
- Communications to Emergency Services (Fire & Rescue/Ambulance/Police);
- Protect the environment;
- Traffic control;
- Evacuation; and
- All clear.

The Area Wardens will provide assistance and specific knowledge to the Chief Warden for their particular geographic area and will have tasks delegated to them as required.

Once the Emergency Services (NSW Fire & Rescue / Police) arrive on site control/command passes to their Emergency Services Controller unless otherwise directed by Fire & Rescue / Police. The Chief Warden will then provide assistance and support.

2.2 JEMENA

Jemena will be responsible for the management of communications to:

- The media;
- External government authorities, such as NSW Fire & Rescue, the Police, SafeWork NSW and the EPA, except as required during the event, where communication will be managed by the remediation contractor; and
- Neighbours (residents and commercial), except as required during the event, where communication will be managed by the remediation contractor.

2.3 EXTERNAL AUTHORITIES

The emergency responsibilities of NSW State Authorities are:

NSW Police Department

The NSW Police is the authority responsible for the command, control and coordination of all off-site actions in the event of a declared emergency with off-site implications.

The NSW Police is responsible for:

- The establishment of a liaison communications centre in, or near to, the existing emergency control centre;
- The setting-up of roadblocks to control all entry/exit points on the periphery of the declared danger area; and
- Evacuation and registration of persons deemed to be at risk from the incident.

NSW Fire & Rescue

In addition to its firefighting role, NSW Fire & Rescue is responsible for minimising the impact of hazards and emergency incidents on the people, environment and economy.

NSW Ambulance Service

The NSW Ambulance Service is responsible for the provision of transport and medical assistance for injured persons.

Roads and Maritime Services

Roads and Maritime Services (RMS) responsibilities include regulation of the waterways and safety and environmental management services.

NSW Health

NSW Health is responsible for safeguarding the health of the public and for instituting, under NSW Police control, any necessary control measures. In an emergency situation, NSW Health is responsible for:

- Providing independent radiological and/or toxicological surveys;
- Providing advice to the NSW Police on decontamination measures off-site; and
- Providing any necessary medical care for persons affected by the emergency.

NSW State Emergency Service

The NSW State Emergency Service (SES) is an emergency and rescue service to assist the community. Its function includes:

- The immediate caring for the homeless, including providing food, accommodation and clothing;
- Assisting in major evacuation; and
- Establishing and operating welfare centres until community services are available.

SafeWork NSW

SafeWork NSW is responsible for responding to occupational health and safety injuries and serious near-misses.

3. EMERGENCY SCENARIOS

The remediation contractor will identify a full range of emergency scenarios but the following have been identified at this stage:

Scenario	Immediate action	Further action
- Person down. - Person(s) seriously injured and cannot or should not be moved until specialised medical aid is available.	- Raise alarm. Dial “000”. - Apply first aid if safe to do so. - Chief Warden to take charge. - Other Emergency Services to be called, as required. - Assist Emergency Services.	- PPE of patient(s) may need to be removed to commence CPR - assess potential exposure first. - Ambulance brought to most convenient location, patient(s) transferred to ambulance.
- Person down. - Person(s) seriously injured but able to walk.	- Raise alarm. Dial “000”. - Apply first aid if safe to do so. - Relocate the person to a safer location. - Chief Warden to take charge. - Other Emergency Services to be called, as required. - Assist Emergency Services.	Ambulance brought to most convenient location, patient(s) transferred to ambulance.
- Fire. - Mobile plant or equipment, building, flammables or combustibles catch fire.	- Raise alarm and establish exclusion zone. - Dial “000” if fire not small and easily controllable locally. - Chief Warden to take charge. - Other emergency services to be called, if required. - If safe to do so, fight fire with appropriate fire extinguisher (only considered appropriate if fire is small and contained).	- If safe to do so, remove other combustible and flammable materials and items away from affected area. - Maintain exclusion zone.

Scenario	Immediate action	Further action
- Boating related incident. - Incident involving injury or death, damage over \$5,000 or damage or risk of damage to the environment.	- Stop the vessel immediately. - Give any assistance which may be necessary. - Raise alarm and establish exclusion zone. - Dial “000” if injury or damage to the environment e.g. oil spill. - Deploy containing measures, e.g booms, if a spill. - Chief Warden to take charge. - Other Emergency Services to be called, as required.	Report to RMS within 24 hours.
Loss of containment of fuel or oil from plant or equipment at Tennyson Road premises.	- Raise alarm. - Chief Warden to take charge. - Use spill kits to protect drains. - Contain spillage with soil or absorbent material. - Remove all possible ignition sources from the area. - Ensure that no contaminated water is allowed to run off the work site. - Emergency Services to be called, as / if required.	- Sweep up contaminated materials. Place into drums or other suitable receptacles. Avoid washing down. - Personnel should use appropriate PPE. - Report to EPA, if required.

4. EMERGENCY RESPONSE AND MANAGEMENT

4.1 CONTACT DETAILS

The remediation contractor's emergency plan will list personnel in order of call and whether they are first-aid trained.

4.2 RAISING THE ALARM

Any person who observes or discovers an emergency situation where there is immediate danger to personnel, property or the environment must immediately alert their supervisor and any other personnel in immediate vicinity of the emergency.

If there is any doubt as to whether any hazardous situation constitutes an emergency, then it is to be treated as an emergency.

The person initiating an emergency must advise the emergency response personnel the following information where known:

- the exact location;
- type and scale of the emergency;
- what assistance is needed (Fire & Rescue, Ambulance etc.);
- any hazards that may be encountered; and
- name and contact number.

4.3 EMERGENCY RESPONSE ACTIONS

Chief Warden

The Chief Warden shall direct the emergency response actions.

Three main principles apply to emergency control in order of priority:

1. Ensure safety of personnel;
2. Attend to injured personnel; and
3. Combat/contain emergency situation.

The Chief Warden is also responsible for liaising with the external Emergency Services Controller as required.

The actions of the Chief Warden after emergency notification are typically described below.

General Duties	Specific Tasks
1. Identification	Don orange Emergency Commander hard hat and vest.
2. Evaluation	- Inspect affected area. - Determine wind direction for toxic gas and fire / flow direction for water.
3. Evacuation	- If necessary, order personnel to evacuate the work site to the Emergency Assembly Area, depending on the nature and scale of emergency. - Nominate an Emergency Warden to coordinate evacuation and conduct roll call.
4. First Aid	Arrange first aid or ambulance.
5. Alert Neighbours	If potential off-site impact, alert neighbours.
6. Emergency Services	If required, contact Emergency Services (000)
7. Notify Management	When not attending to urgent needs, notify remediation contractor and Jemena management.
8. Search and Rescue	If the Emergency Warden has advised that personnel cannot be accounted for, initiate search and rescue with the available resources if safe to do so.
9. Emergency Control Centre	If necessary, establish an Emergency Control Centre.
10. Protect Environment and Property	If it is safe to do so, and the environment and/or property is threatened, coordinate available resources to protect the environment and property on and off the site. This may include deployment of fog sprays, sand bags, silt fences, hay bales, absorbent sausages and mats, earthen bunds or trenches and impervious covers.
11. Combat Incident	If it is safe to do so, coordinate available resources to implement appropriate actions to stop or reduce the incident. This may include closing valves, isolating sources, covering or containing, firefighting, cooling, dampening, etc.
12. Liaison	Control the emergency by liaising with Emergency Services and others.

General Duties	Specific Tasks
13. All Clear	• Issue “All Clear” when the situation is back to normal. • Participate an incident debrief. • Return all emergency equipment used. • Report equipment faults or damage.
14. Data	• Where possible, gather relevant data, logs, etc. that will assist and support the decisions and actions taken during the incident, including collection of samples (soil/sediments/air/liquids) from the incident area and the receiving environment. • Make records of communications with authorities. • Make records of actions taken.

Emergency Warden

The three main principles for the Emergency Warden are in order of priority:

- i) Muster personnel from work areas to muster point / Emergency Assembly Area;
- ii) Account for personnel; and
- iii) Advise Emergency Commander of any unaccounted personnel.

The actions of the Emergency Warden are:

General Duties	Specific Tasks
1. Muster Personnel	• Supervise evacuation of personnel to muster point / Emergency Assembly Area. • Conduct quick search of incident area (if safe to do so). • Collect records of personnel working in the incident area, such as sign-on list at job start, tag in/out board (if applicable), visitor sign in/out book/board.
2. Roll Call	• Conduct roll call. • Determine any missing personnel. • Notify Chief Warden.

General Duties	Specific Tasks
3. Control	- Keep personnel at muster point / Emergency Assembly Area. - Delegate personnel if traffic control is required. - Standby for any instructions from Chief Warden.
4. Communicate	Report to Chief Warden at least every 15 minutes by radio or telephone.
5. All Clear	- When the “All Clear” is given by the Chief Warden, convey to personnel at muster point / Emergency Assembly Area. - Participate in incident debrief. - Resume normal duties.

Site Personnel and Visitors

Three main principles applying to site personnel and visitors are in order of priority:

- i) Raise alarm;
- ii) Evacuate to muster point / Emergency Assembly Area if instructed to do so; and
- iii) Follow instructions from Chief Warden and Emergency Warden.

After emergency notification:

General Duties	Specific Tasks
1. Evacuation	If the Chief Warden orders evacuation of the work site, move quickly and calmly to the muster point and follow instructions from the Emergency Warden.
2. Roll Call	- Identify yourself to Emergency Warden when name is called. - Advise Emergency Warden of any missing personnel.
3. Control	- Stay at muster point / Emergency Assembly Area unless otherwise instructed by Emergency Warden or Chief Warden. - Standby for any instructions – including for assistance in emergency control such as traffic management – from Emergency Warden.
4. All Clear	When the “All Clear” is given by Emergency Warden resume normal duties.

4.4 EMERGENCY CONTROL CENTRE

The large meeting room in the Tennyson Road building will be the emergency control center unless it is threatened by the emergency situation, in which case the Chief Warden will choose an alternative location.

4.5 EMERGENCY ASSEMBLY AREAS

The prime emergency assembly area is in Tennyson Road, outside the front gate to the Jemena premises.

The Chief Warden may nominate another location.

4.6 EMERGENCY SERVICES

It is essential that complete co-operation be achieved between emergency services such as Fire & Rescue, Police and Ambulance and the remediation contractor personnel managing any emergency. The Chief Warden shall determine whether emergency services are required.

In the event of arrival of the Fire & Rescue, the Chief Warden hands over control to the senior Fire & Rescue officer who becomes the Emergency Services Controller unless otherwise directed by Fire & Rescue. The Chief Warden then maintains close liaison, providing advice and directing site personnel as required.

The handover briefing will include:

- Location, nature and status of the emergency
- Details of personnel injured or trapped
- Action taken to date
- Location of all personnel involved
- Details of product(s) involved
- Details of other known hazards
- Any other relevant information
- Access to a written copy of this manual

Technical and general advice about chemical/toxic/fire hazards must be given. Safety Data Sheet information will be made available to the Emergency Services.

4.7 EMERGENCY RESPONSE EQUIPMENT

Firefighting, spill response and first-aid facilities will be provided or upgraded as required.

A fire safety study will be undertaken to determine what equipment is needed and where.

Spill response kits will be located at Tennyson Road and on the excavator barge.

4.8 CRISIS COMMUNICATIONS / MEDIA RESPONSE

Jemena will be responsible for the management of communications to the media and external government authorities, such as NSW Fire & Rescue, the Police, SafeWork NSW and the EPA, except as required during the event, where communication will be managed by the remediation contractor.

5. TERMINATING AN EMERGENCY AND POST-EMERGENCY ACTIVITIES

5.1 TERMINATION OF EMERGENCY

If the Emergency Services Controller returns control and there is no potential for further danger to people or damage to plant and the environment, the Chief Warden may then terminate the emergency.

The Chief Warden will notify management and any other external parties that were notified of the emergency that the emergency has been terminated.

5.2 RECOMMENCING OPERATIONS

Resumption of normal operations will depend on damage to operating plants, removal of debris, repair or replacement of machinery, de-contamination and disposal of any contaminated material and the need to preserve evidence for any statutory investigation.

The decision to resume operations will be made by the Chief Warden or his/her deputy when he/she is satisfied it is safe to do so.

5.3 RECOVERY MANAGEMENT

The remediation contractor or Jemena, if its employees are involved, will have in place a recovery management system to facilitate the return to work of the people involved in the incident as quickly as possible with the least emotional and physical effects and also to manage the tragic consequences of permanent incapacitation or death.

6. INVESTIGATION AND INCIDENT REPORTING

The Chief Warden or delegate shall provide notification to SafeWork NSW, the EPA, the NSW Health and other authorities as appropriate. This initial notification shall be made immediately after the urgent emergency response actions are implemented.

6.1 INVESTIGATION

Following on from an emergency the remediation contractor and the Jemena project team must, as soon as practicable, thoroughly investigate any major incident or near miss. The investigation following on from an emergency will be conducted along the following lines:

- Background and information on the details of the incident;
- Identification of the key problem;
- Details on materials involved, and the amounts of each;
- The effects of the major incident on people, property and the built and natural environment;
- Discussion of any quick fixes in place to prevent recurrence, while longer term corrective actions are identified;
- Analysis and description of root causes of the incident;
- What clean-up methods were used;
- The effectiveness of Emergency Plan and procedures; and
- Corrective and preventive actions proposed to prevent recurrence.

It is important to ensure that only facts are considered and reported. Speculation and opinion should be avoided.

Various types of statutory investigations may follow any emergency:

Coronial Enquiry

A coronial enquiry will be held in the case of any fatality and may be held in the case of fire. In these cases preservation of evidence is highly important.

The Chief Warden will ensure that there is no cleaning up, repairs or movement of bodies, apart from that necessary to control the emergency, without approval of the senior Police officer on site.

The Police will manage all aspects of the coronial inquiry. There must be no interference with the scene or with evidence that may be used in the inquiry. Every co-operation should be provided to the investigating authority.

Other Departmental Investigations

Other relevant government authorities may decide to investigate an emergency, e.g. SafeWork NSW, the EPA and the Council.

They will be directed in the first instance to the Jemena project manager.

It is essential that these visitors are escorted on site but only when safe conditions exist or hazards have been defined. These visitors should also be given an appropriate site induction.

6.2 REPORTING

The incident / investigation report will include identifying the root cause(s) of the incident, reviewing the risk assessment and controls, a review of the emergency procedures, actions taken and make recommendations for changes required.

The incident / investigation report will be recorded in the Jemena incident management system along with any actions required.

7. TRAINING, TESTING, REVIEW AND DOCUMENT CONTROL

7.1 TRAINING

Project personnel will be required to undergo induction training prior to commencing work. The emergency response component of the training will contain the following topics:

- Purpose of the Emergency Plan;
- Site inventory of dangerous and/or hazardous materials;
- Identification of potential emergency scenarios;
- Emergency assembly points;
- Notification and alarm systems;
- Emergency response equipment;
- Contact details;
- Raising the alarm;
- Response to the alarm; and
- Emergency response actions.

The person who assumes the role of Chief Warden must be trained to a level that allows timely and effective implementation of this Plan.

7.2 TESTING AND REVIEW OF PLAN

This Plan will be tested to ensure it can be effectively implemented. Tests will be done in the form of a desktop or simulated exercise.

This Plan is to be reviewed following an emergency or at least annually.