



Government of **Western Australia**
Department of **Mines and Petroleum**
Resources Safety

Guide to emergency preparedness HIF audit 2009

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1 Threat analysis

Point	Standard	Guideline
1.1	The operation has prepared an emergency plan.	<p>Intent: To ensure that the management of emergencies has been prepared for.</p> <p>Personnel: A senior manager.</p> <p>Method: View the emergency plan documentation. Refer to MSIR 4.30.</p>
1.2	The emergency plan identifies the types of hazards which may affect the enterprise.	<p>Intent: To ensure that every possible hazard likely to cause an emergency has been identified.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation. Refer to MSIR 4.30(2)(a) and 4.36(1).</p>
1.3	Each identified hazard is scaled for probability and consideration is given to the potential severity.	<p>Intent: To ensure that all the identified hazards have been assessed for probability and severity.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation. Refer to MSIR 4.30(2)(b).</p>
1.4	Each identified hazard is assessed with regard to prevention.	<p>Intent: To ensure that all the identified hazards have been assessed with regard to prevention.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation. Refer to MSIR 4.30(2).</p>
1.5	Each identified hazard is assessed with regard to emergency management.	<p>Intent: To ensure that all the identified hazards have been assessed with regard to emergency management.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation. Refer to MSIR 4.30(2)(c).</p>

2 Emergency plan preparation

Point	Standard	Guideline
2.1	The emergency plan includes an evacuation procedure.	<p>Intent: To ensure that there are procedures to be used to evacuate the site or facility in the event of an emergency.</p> <p>Personnel: Employees and contractors.</p> <p>Method: Review the plan documentation and question personnel as to what the evacuation procedure entails.</p>
2.2	The emergency plan details the method for identifying and accounting for the number of persons on site at all times.	<p>Intent: To ensure the existence of a system to account for all persons on site at any one time in the event of an emergency.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation.</p>
2.3	The emergency plan includes a means of visitor control.	<p>Intent: To ensure the existence of a system to control the movement and the accounting of site visitors.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation.</p>
2.4	The emergency plan allocates responsibilities.	<p>Intent: To ensure that the emergency plan allocates responsibilities to key personnel.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation.</p>
2.5	The emergency plan specifies action details.	<p>Intent: To ensure that the emergency plan details the procedures to be followed and the duties of key personnel in the case of each of the identified possible emergencies.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation.</p>
2.6	The emergency plan is communicated to key personnel.	<p>Intent: To ensure that key personnel are aware of their responsibilities and duties in all emergency scenarios.</p> <p>Personnel: Managers, rescue team officials, supervisors etc.</p> <p>Method: Question key personnel as to their responsibilities in an emergency, and as to the detail of the plan.</p>

Point	Standard	Guideline
2.7	The emergency plan provides for the training of staff to manage emergencies on site.	<p>Intent: To ensure that the emergency plan provides for the training of key staff in the plan's application and implementation.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation.</p>
2.8	The emergency plan is revised and updated as required, and at least annually.	<p>Intent: To ensure that the emergency plan is reviewed, at least annually, for its applicableness.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation. Refer to MSIR 4.30(3).</p>
2.9	After a revision of the emergency plan key staff and the necessary employees are retrained accordingly.	<p>Intent: To ensure that a mechanism is in place to retrain personnel after any changes in the emergency plan.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation.</p>

3 Emergency plan activation

Point	Standard	Guideline
3.1	The emergency plan includes the requirement for the training of all employees in emergency procedures and evacuation.	<p>Intent: To ensure that all employees are trained in emergency procedures and evacuation.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation. Refer to MSIR 4.13.</p>
3.2	The emergency plan requires that emergency drills are held on a regular basis.	<p>Intent: To ensure that emergency drills occur regularly. It is suggested that the period between drills reflects the hazards at the particular work place.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation. Check records of recent drills, evacuation times for underground workings, etc. Was a stench gas or other alarm system used during the exercise? Refer to MSIR 4.36(2)(g).</p>
3.3	The emergency plan details under what circumstances, by whom, and how, the plan is activated.	<p>Intent: To ensure that there are procedures to be used to activate the emergency plan.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation.</p>
3.4	The emergency plan specifies a method for raising the alarm in the event of an emergency.	<p>Intent: To ensure that there is an alarm system to be used in the event of an emergency and that it is regularly tested.</p> <p>Personnel: Mine personnel.</p> <p>Method: Review the emergency plan and interview personnel. Check the procedure for calling out the mine rescue team. Refer to MSIR 4.30(2)(c)(ii), 4.30(2)(c)(iii) and 4.36(2)(a).</p>
3.5	The emergency plan includes a procedure for total or partial evacuation and identifies who initiates the evacuation, as well as identifying evacuation muster points.	<p>Intent: To ensure that there are procedures for evacuation.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation and inspect muster points. Refer to MSIR 4.36(2)(c).</p>
3.6	The emergency plan provides for the review of security in conjunction with emergency planning.	<p>Intent: To ensure that there are procedures to secure the scene/area of an emergency.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation.</p>

Point	Standard	Guideline
3.7	The emergency plan includes the provision for calling in external assistance at the appropriate time.	<p>Intent: To ensure that there is a procedure to be used to call in outside assistance.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation.</p>
3.8	The emergency plan details under what authority a shut down of external activities can be made in an emergency.	<p>Intent: To ensure that there are procedures to be used to evacuate surrounding enterprises, shut roads etc, should it be necessary.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation.</p>
3.9	Responsibility to make media statements is allocated to an assigned person or position.	<p>Intent: To ensure that there is a procedure in place to deal with the needs of the media.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation.</p>
3.10	Nominated persons are authorised to officially notify relatives as to the status of casualties.	<p>Intent: To ensure that there is a procedure for the notification of relatives as to the status of casualties.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation.</p>
3.11	Provision is made for when, and by whom, personnel crisis consultants are contacted.	<p>Intent: To ensure that there is a procedure to be used to bring in counselling services.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation.</p>

4 Emergency control centre

Point	Standard	Guideline
4.1	An Emergency Control Centre (ECC) is available on site.	<p>Intent: To ensure that an ECC can be established in the event of an emergency.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation and check the location for suitability.</p>
4.2	The ECC has copies of the most recent version of the emergency plan.	<p>Intent: Self explanatory.</p> <p>Personnel: N/A.</p> <p>Method: Check the copies in the ECC designated location.</p>
4.3	The ECC has the most recent version of the site layout and location plans / maps.	<p>Intent: Self explanatory.</p> <p>Personnel: N/A.</p> <p>Method: Check the copies in the ECC designated location.</p>
4.4	The site plans contain diagrams of those service facilities, communications, fire hydrants, safety refuges, building emergency exits and muster points required in an emergency.	<p>Intent: Self explanatory.</p> <p>Personnel: N/A.</p> <p>Method: Check the copies in the ECC designated location.</p>
4.5	The ECC has the applicable equipment for both internal and external communications.	<p>Intent: To ensure that work in the ECC can be carried out expeditiously.</p> <p>Personnel: N/A.</p> <p>Method: Check the communication facilities located in the ECC designated location.</p>
4.6	A means of recording messages and communications in chronological order is readily available.	<p>Intent: To ensure that work in the ECC can be carried out expeditiously.</p> <p>Personnel: A senior manager.</p> <p>Method: Inspect the documentation used to record events in the ECC designated location.</p>
4.7	There is sufficient room to accommodate the emergency management personnel.	<p>Intent: To ensure that the personnel involved in the different aspects of emergency response are provided with appropriate work space.</p> <p>Personnel: A senior manager.</p> <p>Method: Check the ECC designated location and other allocated facilities.</p>

5 Emergency resources

Point	Standard	Guideline
5.1	The resources required in the event of an emergency are regularly reviewed.	<p>Intent: To ensure that the emergency plan requires the review of those resources required in an emergency. The review should be at least annually and at any time when significant changes occur at the operation.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation. Refer to MSIR 4.30(3).</p>
5.2	The resource and service requirements take into account geographic factors e.g. location, access, communications, etc.	<p>Intent: To ensure that the location of the site has been considered in respect to the availability of on-site resources such as emergency pumps, medical supplies and expertise etc.</p> <p>Personnel: A senior manager.</p> <p>Method: Identify the stand alone provisions in place to deal with the remoteness of the site.</p>
5.3	The resource and service requirements consider the external availability of mutual aid.	<p>Intent: To ensure that mutual aid agreements are in place with other sites and other organisations, or that the site is able to stand alone in its emergency response.</p> <p>Personnel: A senior manager.</p> <p>Method: View any mutual aid agreements in place.</p>
5.4	On-site first aid services and facilities are available.	<p>Intent: To ensure that immediate first aid is available to stabilise accident victims prior to the arrival of off-site resources.</p> <p>Personnel: First aid personnel.</p> <p>Method: View first aid facilities and equipment. Check the training records. Refer to MSIR 4.24 and 4.25.</p>
5.5	A vehicle, suitable for the transport of casualties, is available on site at all times.	<p>Intent: To ensure that a first aid vehicle is available.</p> <p>Personnel: First aid personnel.</p> <p>Method: Inspect nominated vehicle for suitability. Refer to MSIR 4.27.</p>
5.6	Fixed location fire fighting equipment (extinguishers, host reels, etc.) is distributed and located where necessary, accordingly to a risk analysis and in accordance with AS 2444.	<p>Intent: To ensure that the required equipment for fire fighting is readily available.</p> <p>Personnel: A senior manager.</p> <p>Method: View plans showing location of fire fighting equipment.</p>

Point	Standard	Guideline
5.7	Fixed location fire fighting equipment (extinguishers, hose reels etc) is maintained in accordance with manufacturer's instructions.	<p>Intent: To ensure that fire fighting equipment is ready for use at all times.</p> <p>Personnel: A senior manager.</p> <p>Method: View the equipment maintenance records.</p>
5.8	Site personnel are trained in the use of fixed location fire fighting equipment.	<p>Intent: To ensure that site personnel are trained in how to use the fire fighting equipment on site.</p> <p>Personnel: A senior manager.</p> <p>Method: View fire fighting equipment training records. Refer to MSIR 4.30(2)(c)(vi).</p>
5.9	On-site communication systems, including back-up, are present at all times.	<p>Intent: To ensure the presence of fail safe communications.</p> <p>Personnel: A senior manager.</p> <p>Method: View the site communication systems available, noting location and stand alone capacity, i.e. does it rely on mains power?</p>
5.10	There is an effective and utilised warning system on site that detects and identifies severe weather threats.	<p>Intent: To ensure the provision of advance warnings of inclement or severe weather likely to affect the site.</p> <p>Personnel: A senior manager.</p> <p>Method: What early warning systems are in place? Is the area vulnerable to severe weather events that are remote from the site i.e. flash floods?</p>
5.11	Essential services e.g. power, water, have provision for emergency supplies.	<p>Intent: To ensure that critical resources have emergency back ups available.</p> <p>Personnel: A senior manager.</p> <p>Method: Identify methods used for the provision of essential services.</p>

6 Mine rescue

Point	Standard	Guideline
6.1	A trained mine rescue team is available or on call.	<p>Intent: To ensure that a mine rescue team is available or on call in the event of an emergency.</p> <p>Personnel: Mine emergency team coordinator or a senior manager.</p> <p>Method: View the mine rescue training records. Refer to MSIR 4.30(2)(c)(vi) and 4.33(1)(b).</p>
6.2	Facilities are available on site to store and maintain mine rescue equipment.	<p>Intent: To ensure that mine rescue equipment is available and ready for use.</p> <p>Personnel: Mine emergency team co-ordinator or a senior manager.</p> <p>Method: View the mine rescue facility. Refer to MSIR 4.30(2)(c)(i).</p>
6.3	Breathing apparatus is available on site to meet emergency requirements.	<p>Intent: To ensure that breathing apparatus is available ready for use by mine rescue personnel.</p> <p>Personnel: Mine emergency team co-ordinator or a senior manager.</p> <p>Method: View the breathing apparatus. Refer to MSIR 4.30(2)(c)(i) and 4.33(1)(a).</p>
6.4	Rescue personnel are trained in the use of breathing apparatus.	<p>Intent: To ensure that rescue personnel trained in the use of breathing apparatus are available or on call.</p> <p>Personnel: Mine emergency team co-ordinator or a senior manager.</p> <p>Method: View the training records. Refer to MSIR 4.30(2)(c)(vi) and 4.33(1)(b).</p>
6.5	Breathing apparatus is maintained in accordance with the manufacturer's recommendations.	<p>Intent: To ensure that breathing apparatus is being maintained ready for use.</p> <p>Personnel: Mine emergency team co-ordinator or a senior manager.</p> <p>Method: View the breathing apparatus maintenance records.</p>
6.6	In the event of a HazChem emergency, a person or position is responsible to urgently facilitate technical information (MSDS).	<p>Intent: To ensure that a procedure is in place to provide MSDS information to the persons dealing with a HazChem emergency.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the emergency plan documentation.</p>

Point	Standard	Guideline
6.7	Equipment is available on site to deal with hazardous chemical spills.	<p>Intent: To ensure that breathing apparatus, chemical suits and spill containment equipment is available.</p> <p>Personnel: Mine rescue team co-ordinator or senior manager.</p> <p>Method: View the equipment. Refer to MSIR 4.30(2)(i).</p>
6.8	Rescue personnel are trained in the use of the equipment used for hazardous chemical spills.	<p>Intent: To ensure that rescue personnel trained in the use of the spill equipment are available or on call.</p> <p>Personnel: Mine emergency team co-ordinator or a senior manager.</p> <p>Method: View the training records. Refer to MSIR 4.13 and 4.30(2)(vi).</p>
6.9	Hazardous chemical spill equipment is maintained in accordance with the manufacturer's recommendations.	<p>Intent: To ensure that chemical spill equipment is being maintained ready for use.</p> <p>Personnel: Mine emergency team co-ordinator or a senior manager.</p> <p>Method: View the equipment maintenance records.</p>
6.10	Mobile fire fighting equipment is available on site.	<p>Intent: To ensure that mobile fire fighting equipment is available in the event of a fire.</p> <p>Personnel: Mine emergency team co-ordinator or a senior manager.</p> <p>Method: View the equipment. Refer to 4.30(2)(i).</p>
6.11	Rescue personnel are trained in the use of mobile fire fighting equipment.	<p>Intent: To ensure that rescue personnel trained in the use of mobile fire fighting equipment are available or on call.</p> <p>Personnel: Mine emergency team co-ordinator or a senior manager.</p> <p>Method: View the training records. Refer to MSIR 4.30(2)(c)(vi).</p>
6.12	Mobile fire fighting equipment is maintained in accordance with the manufacturer's recommendations.	<p>Intent: To ensure that mobile fire fighting equipment is being maintained ready for use.</p> <p>Personnel: Mine emergency team co-ordinator or a senior manager.</p> <p>Method: View the equipment maintenance records.</p>
6.13	Rope rescue equipment is available on site to effectively conduct rescue at height or depth.	<p>Intent: To ensure that rope rescue equipment is available in the event of an emergency.</p> <p>Personnel: Mine emergency team co-ordinator or a senior manager.</p> <p>Method: View the equipment. Refer to MSIR 4.30(2)(c)(i).</p>

Point	Standard	Guideline
6.14	Rescue personnel are trained in the use of rope rescue equipment.	<p>Intent: To ensure that rescue personnel trained in the use of rope rescue equipment are available or on call.</p> <p>Personnel: Mine emergency team co-ordinator or a senior manager.</p> <p>Method: View the training records. Refer to MSIR 4.30(2)(c)(vi).</p>
6.15	Rope rescue equipment is maintained in accordance with the manufacturer's recommendations.	<p>Intent: To ensure that rope rescue equipment is being maintained ready for use.</p> <p>Personnel: Mine emergency team co-ordinator or a senior manager.</p> <p>Method: View the equipment maintenance records.</p>
6.16	Extrication equipment is available on site.	<p>Intent: To ensure that extrication equipment is available in the event of an emergency.</p> <p>Personnel: Mine emergency team co-ordinator or a senior manager.</p> <p>Method: View the equipment. Refer to MSIR 4.30(2)(c)(i).</p>
6.17	Rescue personnel are trained in the use of extrication equipment.	<p>Intent: To ensure that rescue personnel trained in the use of extraction equipment are available or on call.</p> <p>Personnel: Mine emergency team co-ordinator or a senior manager.</p> <p>Method: View the training records. Refer to MSIR 4.30(2)(c)(vi).</p>
6.18	Extrication equipment is maintained in accordance with the manufacturer's recommendations.	<p>Intent: To ensure that extrication equipment is being maintained ready for use.</p> <p>Personnel: Mine emergency team co-ordinator or a senior manager.</p> <p>Method: View the equipment maintenance records.</p>
6.19	Rescue teams are equipped with first aid equipment.	<p>Intent: To ensure that rescue teams have the necessary first aid equipment to treat injured persons.</p> <p>Personnel: Mine rescue team co-ordinator or a senior manager.</p> <p>Method: View the equipment. Refer to MSIR 4.30(2)(c)(i).</p>

Point	Standard	Guideline
6.20	Rescue personnel are trained to a standard at least equivalent to that of the National Training Proficiency HLTFAZA – Apply Advanced First Aid.	<p>Intent: To ensure that rescue personnel are trained to a standard to suitably treat injured persons prior to their rescue.</p> <p>Personnel: Mine emergency team co-ordinator or a senior manager.</p> <p>Method: View the training records. Refer to MSIR 4.30(2)(c)(vi).</p>

7 Specific situations

Point	Standard	Guideline
7.1	Emergency exits, clearly identified and unobstructed, are provided in treatment plants and surface buildings with plans of these evacuation routes prominently displayed at strategic locations.	<p>Intent: To ensure that emergency exits are available where required.</p> <p>Personnel: A senior manager.</p> <p>Method: Make enquiries as to the general provision, and identify and inspect potentially hazardous work locations for compliant emergency exits and evacuation route plans. e.g. gold rooms. Refer to MSIR 4.10(1)(d) and 4.31.</p>
7.2	Emergency lighting, which is automatic, independent of the regular lighting system and regularly maintained and tested, is provided in work locations that could be hazardous in the event of a sudden lighting failure.	<p>Intent: To ensure that emergency lighting is available where required.</p> <p>Personnel: A senior manager.</p> <p>Method: Make enquiries and identify and inspect likely hazardous work locations for emergency lighting installations. e.g. crusher vaults, enclosed conveyor runs, tunnels, gold rooms. View the system test records. Refer to MSIR 4.32.</p>
7.3	Operable emergency showers and eyewashes are provided in areas where hazardous substances are present or in use.	<p>Intent: To ensure that emergency equipment is readily available at those locations where there is the potential for an employee to be injured by a hazardous substance.</p> <p>Personnel: A senior manager.</p> <p>Method: Make enquiries and identify and inspect likely hazardous work locations for operable emergency showers and eyewashes. e.g. reagent/chemical mixing/dosing areas. View system test records.</p>
7.4	At sites where hazardous substances are produced, used or stored, suitable resuscitation equipment and persons trained in its use are available.	<p>Intent: To ensure that resuscitation equipment is available to stabilise accident victims prior to the arrival of off-site resources.</p> <p>Personnel: First aid personnel.</p> <p>Method: View the first aid facilities and equipment. Check the training records. Refer to MSIR 4.25.</p>
7.5	At sites with the potential to be affected by cyclonic conditions of wind or rain, the emergency plan must include specific procedures to be taken in the event of a threat from those conditions.	<p>Intent: To ensure that sites in areas that could be affected by the weather conditions of a cyclone are prepared for such conditions.</p> <p>Personnel: A senior manager.</p> <p>Method: View the emergency plan documentation for procedures that are in accordance with the recommendations of Mines Safety Bulletin No. 79.</p>

Point	Standard	Guideline
7.6	At all sites the risk associated with the flooding of any work or residential locations, by both natural and man-made sources of water, has been evaluated.	<p>Intent: To ensure that the potential of flooding of any part of a mine site has been rigorously investigated.</p> <p>Personnel: A senior manager.</p> <p>Method: Review the site plans for the locations of water courses, tailings impoundments and water storage ponds in respect to surface buildings, openings to underground workings, underground crown pillars and residential camps. Refer to MSIR 4.11 and 4.36.</p>

8 Underground mines

Point	Standard	Guideline
8.1	In underground mines suitable resuscitation equipment and persons trained in its use are available.	<p>Intent: To ensure that resuscitation equipment is available to stabilise accident victims prior to the arrival of off-site resources.</p> <p>Personnel: First aid personnel.</p> <p>Method: View the first aid facilities and equipment. Check the training records. Refer to MSIR 4.25.</p>
8.2	No flammable materials are stored within 50 metres of an opening to an underground mine.	<p>Intent: To ensure there is no potential for smoke to enter underground workings.</p> <p>Personnel: A senior manager.</p> <p>Method: Make enquiries and identify and inspect the surface proximity of underground openings. E.g. ventilation shafts, adits, escape ways, declines, and access shafts. Refer to MSIR 4.37.</p>
8.3	<p>An escape route that :-</p> <ul style="list-style-type: none"> • is readily available, • is fully signposted, • is sized for rescue team use, • is located in fresh air, • is not the normal means of access, • has been provided in an underground mine. 	<p>Intent: To ensure the provision of a second means of egress in the event of an emergency.</p> <p>Personnel: A senior manager.</p> <p>Method: View the mine plans and inspect the installations underground. Check for signage, the condition of any ladders, fresh air ventilation and the records of inspection. Refer to MSIR 10.10.</p>
8.4	Each person proceeding underground is furnished with a self contained self rescuer.	<p>Intent: To ensure that a self contained self rescuer is provided to each person going underground.</p> <p>Personnel: Underground personnel.</p> <p>Method: Inspect the equipment of personnel underground. Refer to MSIR 4.34(1)(a).</p>
8.5	Each person going underground is trained in the use of a self contained self rescuer.	<p>Intent: To ensure that each person going underground has been trained in the use of a self contained self rescuer.</p> <p>Personnel: Underground personnel.</p> <p>Method: View the training records, including visitor records. Refer to MSIR 4.34(1)(b).</p>

Point	Standard	Guideline
8.6	A management system has been implemented to monitor and maintain self contained self rescuers such that they are ready for use.	<p>Intent: To ensure that self rescuers are maintained in accordance with manufacturer's recommendations.</p> <p>Personnel: Safety coordinator.</p> <p>Method: View the management system in place to maintain the self rescuers. Refer to MSIR 4.1(2)(b).</p>
8.7	Self contained self rescuers are discarded when out of date or damaged.	<p>Intent: To ensure that discard criteria is in place for the removal of out of date or damaged self rescuers.</p> <p>Personnel: Safety coordinator.</p> <p>Method: View a sample of the self rescuers.</p>
8.8	In underground mines fresh air bases or refuge chambers are available within 750m of all workplaces.	<p>Intent: To ensure that fresh air bases or refuge chambers are available near all workplaces, such that employees can travel to one with a self contained self rescuer.</p> <p>Personnel: Underground manager.</p> <p>Method: View the mine plans and inspect the underground facilities.</p>
8.9	Fresh air bases or refuge chamber installations are strategically located.	<p>Intent: To ensure that a risk assessment is undertaken prior to their establishment/installation and hazards are identified. The risk assessment should include the location in regard to accessibility, surrounding hazards (such as blasting, ground conditions and water accumulation) and provision of services.</p> <p>Personnel: Underground manager.</p> <p>Method: View the mine plans and the risk assessments undertaken.</p>
8.10	Fresh air bases and refuge chambers are clearly sign-posted, have communications with the surface, and have a supply of potable water and basic first aid supplies.	<p>Intent: To ensure that such facilities are properly identified, serviced and equipped.</p> <p>Personnel: Safety coordinator.</p> <p>Method: Inspect the underground facilities. Refer to MSIR 4.10 and 10.15.</p>
8.11	Fresh air bases have an assured supply of fresh air.	<p>Intent: To ensure the adequacy of the air supply, including during power failure events when the natural ventilation pressure may change the airflow direction.</p> <p>Personnel: Ventilation officer.</p> <p>Method: View the mine plans and inspect the underground fresh air bases.</p>

Point	Standard	Guideline
8.12	Refuge chambers have an assured supply of air for at least 36 hours.	<p>Intent: For externally supported refuge chambers verify that the supply of oil free compressed air, via a dedicated steel line from the surface, provides enough air for the number of employees the chamber is rated for.</p> <p>For stand alone refuge chambers verify that they have a power supply separate from regular mine services and a sufficient supply of air for the number of employees the refuge chamber is rated for.</p> <p>Personnel: Ventilation officer.</p> <p>Method: View the mine plans, inspect the underground refuge chambers and view the risk assessment to demonstrate adequacy.</p>
8.13	An assessment has been made as to the required refuge chamber size and the lighting and cooling requirements.	<p>Intent: To ensure that due consideration has been given to personnel psychological issues, such as being in a confined space, and the lighting and temperature requirements.</p> <p>Personnel: Ventilation officer.</p> <p>Method: Inspect the underground refuge chambers.</p>
8.14	Refuge chambers and fresh air bases are regularly inspected.	<p>Intent: To ensure that an audit/inspection schedule is in place and used to ensure refuge chambers and fresh air bases are ready for use at all times.</p> <p>Personnel: Underground Manager, safety co-ordinator.</p> <p>Method: View the audit / inspection records.</p>
8.15	Refuge chambers and fresh air bases are maintained as required.	<p>Intent: To ensure that the necessary electrical and mechanical checks and maintenance is being carried out.</p> <p>Personnel: Maintenance manager.</p> <p>Method: View the inspection and maintenance records.</p>