

7.2 Permit to Work System

All work will be controlled by the Orica Permit to Work (PTW) System. Contractors will be obliged to present SWMSs in order to obtain a PTW.

The following procedures will be used:

PW-01	Permit to Work
PW-02	Isolation of Plant and Equipment from Hazardous Materials and Stored Mechanical Energy
PW-04	Excavation/Break-in Authority
PW-05	Electrical Isolation and Permits
PW-06:	Work at Heights/Work on Roofs and the use of Scaffolding, Ladders and Portable Steps
PW-08	Decontamination of Process Equipment

7.3 Safe Work Method Statements

Orica and its contractors will be responsible for developing SWMSs in consultation with workers for high risk tasks, including the following:

- Decontamination of personnel
- Decontamination of plant
- Excavations
- Taking samples in excavations
- Working with mobile plant
- Loading of reagents
- General earthworks

7.4 Arsenic Exposure

Exposure to arsenic will be managed as described below but no special occupational health issues are foreseen.

Site Access

The project area will be fenced to minimise the potential for unauthorised access to the Site from the facility. In addition, the impacted area exclusion zone will be fenced or bunded to clearly demarcate areas where there is potential for arsenic exposure.

Access arrangements will be implemented, including a Site specific induction which will include information on the controls to minimise exposure to arsenic. All personnel working on the remediation site will undertake this induction. Visitors to the Site will be escorted at all times and will receive an area specific induction prior to entering the site.

Safety Data

Safety Data Sheets for arsenic-contaminated soil and arsenic-contaminated water will be kept on site and made available to workers.

Respiratory Protection

Respiratory protection may be required depending upon the activities being undertaken and the potential for exposure to arsenic contaminated soil and groundwater. Occupational monitoring will be undertaken to assist in the assessment of respiratory protection requirements.

Personal Protective Equipment (PPE)

Standard PPE for the project will include steel capped boots, hard hat and safety glasses, long sleeved shirts and long pants. In addition, personnel will be required to wear disposable chemical overalls when working in the construction area.

Chemical resistant disposable gloves will be required to be worn when undertaking any tasks where arsenic contaminated soil or groundwater could be encountered. Gloves will be required to be worn for all other tasks as detailed in SWMSs or JSERAs.

Hearing protection may be required to be worn in the vicinity of operating plant and equipment and an assessment of noise levels will be undertaken to determine any hearing protection zones.

Personal Decontamination

To minimise potential exposure of personnel to arsenic contamination the work area will be divided into two zones – the construction area and the amenity area. Personnel will be required to undertake a decontamination process when moving from the construction area to the amenity area.

This will include the following:

- Scraping boots to remove contaminated soil
- Removal of boots and disposable overalls, with clean boots to be changed into
- Washing of face and hands

Appropriate amenities will be provided to enable the decontamination procedure to be implemented.

Ingestion Minimisation

To minimise the already low risk of arsenic ingestion, food must only be eaten in the clean meal room provided after undergoing the above decontamination procedure.

Food must not be taken into operational areas but arrangements will be made to provide water in the construction area under a work instruction as a control measure for heat stress.

Air Quality Monitoring

Occupational exposure monitoring will be undertaken to assess the potential for airborne arsenic exposure in accordance with a program developed in conjunction with the site's Safety, Health and Risk team.

The results of the monitoring will provide assurance both to personnel working in the construction area but also be available for discussion with adjacent industrial neighbours.

Health Monitoring Programme

The NSW *Work Health and Safety Regulation 2011* requires health monitoring for work involving hazardous chemicals. A biological monitoring programme will be developed in consultation with the site medical personnel and Safety, Health and Risk team to monitor for arsenic. The program will include monitoring prior to the commencement of personnel working in the remediation area, as well as periodic monitoring during the cut-off wall and initial capping stages of the project. The program will generally be in accordance with SafeWork Australia's arsenic (Inorganic) health monitoring guidance.

Decontamination for Maintenance

Any necessary decontamination of plant and equipment for maintenance will be by physical cleaning and water washing. Once decontaminated, the Permit to Work Authority will issue a decontamination tag and associated documentation stating that it is clean and fit to be removed from the contamination areas for maintenance. A procedure for decontamination of equipment will be developed to manage contaminated water, soil and other materials.

7.5 Excavation Work

Planned excavation work on this project consists of trenching to a depth of 12 metres with a long-arm excavator or a crane with a clamshell grab in order to create the cut-off wall as described in section 3.3 above.

This is considered to be "High Risk Construction Work" as defined in Clause 291 of Work Health and Safety Regulation 2011 and an SWMS will be prepared prior to the excavation work by the cut-off wall contractor.

Mechanical plant, vehicles and other heavy loads are not to be located in the 'zone of influence' of an excavation. Orica will rely on the experience of the cut-off wall contractor and Orica's geotechnical consultants to determine this zone of influence.

Orica's model procedures for excavation clearance are to be used to ensure safety with respect to underground services and other potential hazards.

Exclusion zones will be enforced around open trenches, supplemented by barricading, safety fencing or covering, if appropriate. The construction site will also be fenced to prevent intruders falling into open trenches.

7.6 Mobile Plant, Equipment and Vehicles – Contact with Workers

The separation of plant and persons will be addressed with barriers and procedures as required. Communication with plant operators will be enhanced by the use of two-way radios to minimise the need for persons to approach operating plant.

Contractors will ensure that operators of earthmoving machinery are competent to operate the specific type of plant as well as any attachments required.