



CLYDE REFINERY REMOVAL

Environmental Management Plan

Prepared by
Liberty Industrial Pty Ltd
for
The Shell Company of Australia Limited

Revision No.	Revision Date	Authority	Changes
A	04.02.2014	CD	RFP Submission (FOR SHELL APPROVAL)
B	26.05.2014	DW	REVIEW

Specialist Deconstruction Services

- Industrial demolition contractors ■ Mine closure consulting ■ 3D Modelling
 - Demolition consultants ■ Asbestos abatement
- Liberty Industrial Pty Ltd A.B.N. 99 147 758 487



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1 PURPOSE

The purpose of this Environmental Management Plan (EMP) is to provide the necessary framework to enable the project to be completed efficiently and with no environmental impact in accordance with the environmental objectives for this project.

It is the policy of Liberty Industrial (the company) to ensure that the company achieves a high standard of care to minimise the impact on the environment, immediate work sites, and the local community.

To meet these objectives, a systematic and planned approach for the management of environmental issues will be implemented on this project.

This EMP is designed to provide the management framework with strategies to effectively manage all environmental risks during the demolition process.

This plan is to ensure that all activities which have a potential to impact on the environment have been identified, assessed and control measures put in place that are acceptable to The Company and comply with Environmental Protection Authority legislation.

This EMP has been written utilising the company Management System, and recognises the responsibilities to meet the relevant statutory specifications, standards.

2 SCOPE

The management plan applies to all the undertakings concerned with the Shell Clyde Refinery Removal.

3 REFERENCES

- Liberty Industrial Management System.
- Protection of the Environment Operations (Clean Air) Regulation 2010;
- Protection of the Environment Operations (Waste) Regulation 2005;
- Protection of the Environment Operations Act 1997;
- Work Health and Safety Act 2011;
- Work Health and Safety Regulation;
- ISO 14004 - 2004-11-15: Environmental management systems - General guidelines on principles, systems and support techniques;
- AS/NZS ISO 14001:2004: Environmental management systems - Requirements with guidance for use;
- AS/NZS ISO 19011:2003 Australian/New Zealand Standard Guidelines for quality and/or environmental management systems auditing

- Environmental Protection Authority publication Environmental Guidelines for Major Construction Sites (1996)
- AS 1885.1 – 1990: Workplace injury and disease recording standard;
- AS/NZS 4801 - 2001: Occupational Health and Safety Management Systems - Specification with Guidance for use;
- How to Safely Remove Asbestos Code of Practice;
- AS/NZ 2601 – The Demolition of Structures
- AS/NZS ISO 9001:1994: Quality systems - Model for quality assurance in production, installation and servicing;
- AS/NZS 4581 - 1999: Management System Integration – Guidance to Business, Government and Community Organisations;
- AS/NZS 4804 - 2001: Occupational Health and Safety Management Systems - General guidelines on principles, systems and supporting techniques;
- National Code of Practice for Excavation Work;
- Asbestos Blueprint for NSW;
- Fire Brigades Act 1989;
- Local Government Act 1993;

The company Management System is an Integrated Management System. This means that the system is designed to meet the requirements of Workplace Health and Safety, Environmental Management, and Quality.

4 POLICY PLANNING AND COMMITMENT

The company's aim is to achieve a high standard of care and minimise our impact on the natural environment in all activities in which we are engaged. This depends on the commitment of all worker(s) within the company this project.

4.1 POLICY

The company will:

- conduct its operations in compliance with all relevant environmental regulations, licences and legislation as a minimum condition;
- identify, monitor and manage environmental risks arising from its undertakings;
- seek continuous improvement in environmental performance, operational processes, waste management and use of resources by:
 - Monitor and improve our demolition methods to minimise environmental impact;
 - Analyse and continuously improve recycling rates;
 - Fund post graduate studies in waste minimisation;

- provide adequate training and awareness for all workers and sub-contractors on environmental issues;
- communicate and consult regularly with our worker's about our policy and individuals responsibilities;
- communicate with our Clients, suppliers, contractors and sub-contractors, community and external agencies about our environmental performance;
- establish and review environmental objectives and targets;
- develop, implement and maintain a Management System based on the elements of ISO 14001:1996

4.2 PLANNING

A preliminary list of project specific environmental issues are identified in this document, probability stated and management strategies to minimize possibility, detailed.

4.3 COMMITMENT

The company's commitment to the environmental aspects of the project is:

- to conduct the works in accordance with the expectations of Shell, and in adherence to the Act and Regulations and our own plan;
- to monitor potential environmental issues on a daily basis, as part of our hazard and risk management plan;
- to ensure all our worker(s) are aware of our standards and adhere to our requirements; and
- to achieve a zero environmental incident target;

Ref: POL-007 Environmental Policy

4.4 COMMUNICATION

The company commits to reporting through our Project Manager, communicating and reporting all environmental concerns categorized as high risk as per the risk assessment in this EMP. Communication typically occurs on a weekly and monthly basis including a weekly site safety meeting. Communication is undertaken in accordance with the following forms and procedures:

Ref: FRM – 024 Communication Plan Template

PRO – 012 Communication and reporting

ASS – 012 Communications and Reporting

PRO – 066 Pre-Start and Toolbox Meetings

4.5 DOCUMENT AND RECORD CONTROL

Documentation and record keeping is regarded as critical to the function of the project. All records are kept in accordance with our Business Continuity Plan. Records are kept

on site and are accessible to Shell upon request. All records are kept in accordance with relevant legislation and legal requirements. The following list of forms and procedures should be read in conjunction with this clause.

Ref: FRM – 027 Record Master List

FRM – 059 Induction Training Record

PRO – 004 Control of Records

4.6 EMERGENCY PREPAREDNESS

Emergency Management is undertaken in accordance with the site specific Emergency Management Plan.

Ref: Emergency management Plan

5 PERSONNEL ROLES, RESPONSIBILITIES AND TRAINING

5.1 RESPONSIBILITIES

At various levels within the company, key positions hold important responsibilities for general environmental undertakings:

- | | | |
|-------------------------|---|-------------------------------------------------------------------------------------------------------------------|
| Project Director | - | Establish overall direction; |
| Senior Managers | - | Develop environmental policy; |
| | - | Develop environmental objectives, targets and programmes; |
| | - | Review the operation of the environmental management system; |
| All Managers | - | Monitor overall environmental Management system performance; |
| | - | Assure compliance with applicable legal requirements and other requirements to which the organization subscribes; |
| | - | Promote continual improvement; |
| Project Manager | - | Total management of all operations, workers and subcontractors; |
| | - | Ensure compliance with all environmental requirements outlined in the EMP; |
| | - | Liaison with the client in relation to environmental matters; |
| | - | Ensuring that all environmental protection equipment is provided and maintained; |
| | - | Review environmental reports and inspections and initiate actions to rectify; |

- | | |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Officer | <ul style="list-style-type: none"> - Conduct baseline environmental investigations; - Develop an Environmental Management Plan (EMP); - Provide on-site advice in relation to the management of environmental issues; - Conduct environmental incident investigations; - Prepare environmental monitoring report at the completion of the project; |
| All workers | <ul style="list-style-type: none"> - Conform to environmental management system requirements (Including Contractors); |

All persons on the project have a responsibility for ensuring the environment isn't compromised and to manage and report any environmental issues.

Ref: FRM-031 Incident Report

Training Matrix

5.2 TRAINING

The company will ensure that all worker(s) on the project will have the necessary knowledge, awareness and skills to fulfill their environmental responsibilities. This will be done through the company and Shell inductions, and any required specific awareness training, either prior to commencement of the project, or during daily team pre start consultation meeting.

Ref: Training Matrix

LI-FRM-037 Daily Team Consultation Meeting

6 PROTECTION OF THE ENVIRONMENT

6.1 DEFINITIONS

- ALARP – Mitigate risk to “As Low As Reasonably Practical”
- ‘Environment’ means all components of the earth, including:
 - land, air and water;
 - any layer of the atmosphere;
 - flora and fauna;
 - any organic or inorganic matter
 - and any living organism including humans;
 - human made or modified structures and areas;
 - the aesthetic characteristics of the components of the earth, including appearance, sound, odour, taste and texture; and

- ecosystems with any combination of the above;
- 'Environmental Aspect' means the interaction, relationship or impact of an operation or activity with the Environment including, for example:
- Impacts of operations or activities on items of heritage or endangered species; and operations or activities causing Pollution or Contamination;
- 'Environmental Law' means any statute or common law:
- relating to the storage, handling or transportation of waste, dangerous goods or hazardous material relating to Workplace health and safety; or which has as one of its purposes or effects the protection of the Environment;
- 'Environmental Notice' means any direction, order, demand, license or other requirement from a Government Agency to take action or refrain from taking any action in respect of the Site or the Works in connection with any Environmental Law;
- 'Site' means a project site or work area where The company is undertaking activities on behalf of a client.

6.2 ENVIRONMENTAL OBLIGATIONS

The company will:

- Comply with all Environmental Laws including obtaining all necessary permits, authorisations, license and approvals required by any government agency for the lawful use of the site to carrying out of contracted work;
- Not contaminate or cause any pollution on or from the site due to the undertaking;
- Not use, keep or handle on the site any dangerous goods or hazardous material except as may be required to carry out contracted work;
- Not generate or dispose of any hazardous waste on the site;
- Operate in a proper and efficient manner and maintain in good working order, all plant used in connection with the carrying out the contracted work;
- Install and maintain pollution control equipment required by an environmental law to be installed and operated in connection the site undertaking;

Provide to a Shell's representative on demand any information held or controlled by the company required by Shell relating to any:

- Contamination; or
- Environmental aspect, affecting the site at any time;
- Allow Shell and its workers, agents and consultants access to the site to carry out environmental audits, assessments and investigations of the site;
- Promptly comply with any direction from the Shell's representative to implement any recommendation of an environmental audit, assessment, investigation or report in respect of the site and/or undertaking. (whether or not such recommendation is required in order to comply with an environmental law);

Promptly notify the Shell in the event that:

- It becomes aware, or as soon as a complaint is made, of a breach or alleged breach of an environmental law in respect of the site and/or any activity carried out on the site;
- An environmental notice is served on the site;
- The site becomes contaminated in any way;
- Any pollution is emitted or discharged on or from the site;
- The company is in breach of any obligations under the contract;
- Remediate any contamination of the site if caused by the undertaking;
- Clean up, manage or abate any pollution occurring on and/or from the site;
- Remedy any breach of an environmental law that occurs on or affects the site as soon as it occurs (including by restoring the site to a state as close as practicable to the state it was in prior to that alleged breach);
- Comply with every environmental notice relating to the site or issued in consequence of contracted work;
- Remedy any alleged breach of this document;

Measures proposed to reduce adverse impact of undertakings on the environment are:

- Ensure all services are connected in the correct manner to site accommodation, toilets and storage compounds and that rubbish disposal bins are available;
- Vehicle access is to be restricted;
- Enclosure or delineation the site for safety;
- Protection of existing vegetation;
- Dust control using water carts or existing infrastructure;
- Control of discharges from within the site;
- Control erosion on the site sediment socks;

7 PROJECT CONSIDERATIONS

7.1 RISK ASSESSMENT

7.1.1 Risk Assessment Matrix

The following risk assessment matrix has been used to determine the risk of each individual environmental aspect relevant to the demolition of Clyde Refinery. The level of risk determined from the matrix identifies the level of control measures required for that environmental aspect in conjunction with the Preliminary Environmental Assessment.

Likelihood	Consequence				
	1 - Low	2 - Minor	3 - Moderate	4 - Major	5 - Critical
A - Almost certain	High (11)	High (16)	Extreme (20)	Extreme (23)	Extreme (25)
B - Likely	Moderate (7)	High (12)	High (17)	Extreme (21)	Extreme (24)
C - Possible	Low (4)	Moderate (8)	High (13)	Extreme (18)	Extreme (22)
D - Unlikely	Low (2)	Low (5)	Moderate (9)	High (14)	Extreme (19)
E - Rare	Low (1)	Low (3)	Moderate (6)	High (10)	High (15)

Tolerable	ALARP	ALARP	INTOLERABLE
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7.1.2 Risk Matrix Explanation

Probability			Consequences		
A	Almost Certain	Expected to occur, quite common.	25	Critical	<ul style="list-style-type: none"> Major environmental harm. E.g. critical pollution incident causing significant damage or potential to health or the environment. Fines and prosecution likely.
B	Likely	Will probably occur, has happened.	21	Major	<ul style="list-style-type: none"> Long term or serious environmental damage. Numerous complaints

					<p>received.</p> <ul style="list-style-type: none"> ▪ Potential for prosecution. ▪ Loss of reputation
C	Possible	Might occur at some time.	13	Moderate	<ul style="list-style-type: none"> ▪ Moderate environmental impact. ▪ Will cause complaints. ▪ Possible fine.
D	Unlikely	Could occur at some time although unlikely.	5	Minor	<ul style="list-style-type: none"> ▪ Minimal environmental harm. ▪ Potential for complaints. ▪ Fine unlikely.
E	Rare	Might occur at some time in exceptional circumstances.	1	Low	<ul style="list-style-type: none"> ▪ Little or no environmental harm. ▪ Little potential for fines or complaints.

7.2 PRELIMINARY ENVIRONMENTAL ASSESSMENT

The table below is intended only to be used as an initial assessment of potential environmental hazards. A comprehensive risk assessment activity will be conducted on site, in consultation with Shell upon being awarded the contract as the successful tender.

Aspect: contractor activity, product or service that can interact with the environment.

Impact: any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects.

Environmental Value: Air, Land, Water, Waste, Natural Resources, Community, Legal and other (licence)

Risk Level: risk calculated from risk matrix.

Controls: any action or process implemented to reduce the risk. The control could be instigated by SCL or the contractor.

Responsible Person: Personnel responsible for implementing the control and managing the risk.

Aspect	Impact	Environmental Value	Risk Level	Controls	Responsible Person
Asbestos contamination	Environmental and safety hazard to personnel and community	Community	High	Operations must occur in accordance with the EMP and Friable Asbestos Management Plan, Demolition Management Plan (provided upon award of contract or upon request)	As per Friable Management Plan, Demolition Management Plan
Dust	Adverse impact on community from dust	Land, Community	Medium	As per EMP. LI also incorporates a dust management plan (provided upon award of contract or upon request)	As per Dust Management Plan
Weed seeds being carried onto site by vehicles and equipment	Contamination and environmental damage to worksite and surrounds	Land	Low	Check machinery and ensure vehicle checks are maintained. Also personnel to ensure awareness	All
Management of waste material.	Potential contamination of land and water due to inappropriate handling and disposal of waste	Land	Low	Ensure Waste management Plan and EMP are implemented	Set up and maintenance

	materials.			and understood by all staff	personnel
Light vehicle movements (on/off site)	Environmental issues such as dust, hydrocarbon leaks / spills	Land	Low	Regular maintenance checks (Completion of pre start checklist)	Plant Operator
Oil drain of drives, fluid couplings etc.	Oil spillage	Land, Water	Low	Regular maintenance check and pre-start checklist. Spill kit available	Plant Operator
Pre start check on equipment	Fuels and oils - environmental hazards	Land, Water	Low	Regular maintenance checks (Completion of pre start checklist)	Plant Operator
Noise pollution exceeding environmental limitation	Injury to community and personnel on site	Community	Medium	Operations should take place in accordance with Noise Management Plan and Procedure 38 'Guide to noise management'. Work must only take place in nominal working hours.	As per Noise Management Plan

7.3 SOIL CONSERVATION

All precautions shall be taken by the company to prevent the erosion of soil by wind or water on land used or occupied by the company. Prevent the deposition of soil in watercourses during any execution on the project. Existing soil binding vegetation and established ground surfaces shall not be disturbed unless necessary for the purpose of undertaking the works.

If, in the opinion of the Shell, our operations cause erosion hazards, we will undertake soil conservation methods in these areas when directed by the Shell. Soil conservation measures shall include, but not be limited to, stabilisation of embankment slopes by grassing or similar means to control erosion and the construction of cut-off drains or sediment traps to prevent soil deposition outside the site.

To assist in controlling the spread of soil-borne diseases and fungi, all plant required for the demolition of work shall be washed down before such plant is brought into the vicinity of the site.

The company shall also wash down all plant before the plant leaves the site where plant has been exposed to contaminants that cannot leave site.

7.4 NOISE MANAGEMENT

7.4.1 Objective

The objective of this noise management strategy is to minimise noise emissions from the project work and assist in maintaining a satisfactory work environment.

7.4.2 Noise Criteria

The company adheres to the Managing Noise and Preventing Hearing Loss Code of Practice, in order to keep noise to a minimum for worker(s) and other parties who would be affected by the works.

Background noise levels are determined using Australian Standard 2107-1987 and shall be adopted for undertaking should the need arise.

7.4.3 Potential Problem Areas

The following processes have the potential to impact on the amenity of the adjacent spaces:

- Operation of percussion plant;
- Carrying out of loud activities;

7.4.4 Noise Control Methods

The determination of appropriate noise control measures will be dependent on the particular activities and construction appliances. Noise monitoring can be undertaken to determine the effectiveness of measures which have been

implemented. The results of monitoring can be used to devise further control measures.

The following provide an outline of available control methods.

7.4.5 Acoustic Barrier

Barriers or screens can be an effective means of reducing noise. Barriers can be located either at the source or receiver. To provide shielding of the work site it is proposed to utilise a barrier where they can be shown to be effective. In this case the use of an STC60 wall construction separating the work area from the adjacent receiver areas can be acceptable.

7.4.6 Silencing Devices

Where process or appliances are noisy, the use of silencing devices will be possible. These may take the form of engine shrouding, or special industrial silencers fitted to exhausts, as recommended by manufacturers.

7.4.7 Material Handling

The installation of rubber matting over material handling areas can reduce the sound of impacts due to material being dropped by up to 20dB(A).

7.4.8 Treatment of Specific plant

All plant brought to the site will be maintained to the manufacturer's specification. Any plant not conforming to Australian standards for noise emission will be stood down immediately for rectification or will be removed from the site.

In certain cases it may be possible to specially treat a piece of plant to dramatically reduce the sound levels emitted.

7.4.9 Establishment of Site Practices

Administrative procedures can be put in place to minimise the amount of noise generated on site. All potential noisy work shall be arranged in consultation with Shell and the Local Council and may only occur at agreed times.

7.4.10 Establishment of Direct Communication with affected Parties

In order for the noise management strategy to work effectively, continual communication is required between all parties. This establishes a dynamic response process, which allows for the adjustment of control methods and criteria for the benefit of all parties.

The affected parties directly adjacent to the work areas should be contacted on a regular basis and kept informed of the progress on site and the measures being taken to minimise noise and vibration. Where loud activities and generation of high noise levels are unavoidable, early notification should be given to a

representative of the adjacent areas. Consultation in all areas of noise management will be undertaken with all affected parties.

Ref: PRO-038 Guide to Noise Management

7.5 ODOUR CONTROL

The company does not anticipate that there should be any odour issues, however, should odour be detectable at the site boundary, and then appropriate actions will be taken to reduce the odour. If required, the odour intensity will be measured using the Nasal Ranger Field Olfactometer.

Actions to reduce odour levels may include: increasing the amount of covering of excavations /stockpiles; mist sprays; odour suppressants; or maintenance of equipment.

7.6 DUST

The company will at all times endeavour to minimise dust emissions and continually monitor the effectiveness of the dust mitigation strategies. Dust emissions will ordinarily be generated when loading dump trucks and during induced collapse demolition methodologies.

To mitigate dust emissions the use of water where practicable will be used when:

- loading out, transporting and dumping scrap onto stockpile;
- Traffic roads and dumping area will be watered down to prevent dust generation.
- This will be achieved using a water truck and or pumps and sprays;
- The company will at all times wet down structures and surrounding areas as much as is practicable;

Air quality monitoring will be undertaken at the site boundary as required throughout the project.

7.7 FIRE PRECAUTIONS

The company shall prevent, where possible, the degradation of air quality by fires created by hot work operations. Burning of waste material is strictly forbidden.

The company shall provide, operate and maintain adequate firefighting equipment for the protection of the worker(s) and its plant.

All necessary measures to prevent fire during the undertakings that has the potential to damage or cause destruction by fire of buildings, vegetation and surrounding areas will be taken.

The company shall comply with the requirements of the Fire Brigades Act 1989 and Regulations and shall ensure that all persons on the site observe these requirements.

The company shall take notice of, and implement appropriate strategies for, any announcements by Fire Authorities, particularly the notification of days of Total Fire Ban. Should the need arise and application for a permit will be lodged with the NSW Fire Brigades to operate during these fire bans.

7.8 CONTROL OF SURFACE WATER RUN-OFF

The company shall design, supply, install, maintain and operate drainage systems to control surface run-off to and from the site. The company shall implement, wherever practicable, the recommendations set out in the *Environmental Protection Authority publication Environmental Guidelines for Major Construction Sites (1996)*.

All surface run-off and groundwater from excavations shall be collected and conveyed to settling ponds and oil traps, as required, prior to discharge into the environment. All discharges to watercourses or drains shall meet the relevant requirements of the Environmental Protection Authority.

The company shall ensure that all water is discharged in a condition and manner so as not to cause erosion or pollution, or nuisance to other persons within or adjacent to the site.

Polluted water from any source shall not be allowed to enter any watercourse without first being settled and treated to remove the pollution. A consultative approach with the Shell will be undertaken.

7.9 CARE OF WATERCOURSES

All proper precautions shall be taken by the company to prevent erosion of the bed or banks of any watercourse, and to prevent the pollution of any watercourse of excavated or eroded materials that may result from the execution of the project work.

7.10 PRESERVATION OF FLORA AND FAUNA

The company shall not destroy, remove or clear trees and vegetation without the prior written permission of Shell.

The company shall take all measures necessary to prevent worker(s) from disturbing, capturing or destroying animals and birds within the site and all neighbouring areas and along the accesses to the site.

Vegetation may only be trimmed to allow passage of machinery if there is no alternative route (determined in conjunction with Shell).

Trimming shall not be left against remaining vegetation. Where small trimmings or chippings are the result, they shall be laid over the exposed site or removed as directed by client or principal at the completion of work.

Where shown on the drawings, and as directed by Shell, all tree stumps, roots, brush, rubbish and any objectionable matter shall be disposed of in a lawful manner. Burning of material will not be permitted.

7.11 VEHICLE WASHDOWN, WEED MANAGEMENT

All ground engaging, earthmoving, and tracked equipment shall be cleaned before arrival on site to remove all dirt, stones, organic material prior to entering a weed free area to prevent transfer weeds and plants from other regions.

All plant shall enter the site free from excess dirt.

A copy of a third party Weed and Seed Certificate shall be presented to Shell prior to entering the site as verification prior to mobilisation.

7.12 MANAGEMENT OF HYDROCARBONS

The company shall inspect all plant to be used on the works for oil and fuel leakage before it enters the site, and shall inspect all plant and equipment at regular intervals during the period it's on site.

Under no circumstances shall the company allow any plant to enter any watercourse or allow it to continue operation within the watercourse if the plant is found to be leaking oil or fuel.

Entry of oil, grease or fuel into any watercourse is prohibited. Drainage from any area likely to be so contaminated shall be effectively diverted to a suitable collection point.

The company shall provide, operate and maintain adequate facilities for the collection of leaking fuels, lubricants, oils, greases and the like, and for the transportation and lawful disposal of these materials off-site at lawful facility.

If contamination of the soil occurs due to the use of plant or spillage of any contaminant, then all contaminated soil shall be either removed from the site or be left for the remediation process to commence. Any disposed will be accordance with the requirements of the Environmental Protection Authority.

In order to minimise the risk of polluting a watercourse, all servicing and fuelling of company plant shall be carried out at locations remote from any watercourse.

All hydrocarbons and chemicals shall be secondarily contained regardless of capacity and volume. Secondary storage facilities shall ensure 110% containment of material and prevention of pollution in the event of breach of primary containment, and shall be in accordance with design specifications of Australian Standard 1940.

Service trucks and other vehicles used for the transportation of hydrocarbons and chemicals shall be fitted with appropriate spill catchment facilities to prevent drips and

leaks to ground, and spill response equipment Generators, welders, pumps or other stationary engines shall be fitted with pumps, drip trays, or placed in secondary containment facilities at all times.

The company will ensure at least one person in each work group is trained in competency based Spill Response Techniques.

Spill clean-up materials shall be readily available at each work site where hydrocarbons and chemicals are stored and/or used.

Spills inside and outside containment facilities shall be picked up immediately with appropriate clean up material. Contaminated soil shall be picked up and contained for removal to a licensed facility. Contaminated clean up material shall be managed as oily waste.

Oily waste materials shall be segregated from general wastes and removed from site within 1 month by a licensed contractor.

Receipts shall be maintained as verification of type and amount of waste oil and oily materials removed from site.

Ref: PRO-040 Control of Hazardous Substance Spills

8 WASTE MANAGEMENT

During the course of the project domestic and industrial waste will be generated. These wastes may include timber, oils, paints and solvents, sewage and general domestic refuse.

In order to minimize any risk to the environment or the health of any personnel, the Project Manager will utilise approved procedures to manage the collection, storage and removal of waste from site. The Project Manager will ensure all waste removed from site is documented. Details include:

- Type of waste being removed;
- Quantity of waste being removed;
- Location of where waste is to be disposed of;
- Amount of waste recycled and destination;
- Waste tracking control measures;

The company places a high priority on recycling waste materials and will use facilities in close proximity of the project to maximize recycling. Empty oil and chemical containers such as metal or plastic drums will be returned to the supplier for reuse or recycled where possible.

Ref: FRM-123 General Waste Register

8.1 DISPOSAL PROCESS

To effectively manage waste on the project site, The company will:

- provide suitable containers for storage, collection and transport of waste;
- dispose of site generated waste at approved disposal facility;
- recycle all waste material where practicable i.e. ferrous and nonferrous materials; and
- provide documentation that details waste leaving site along with waste tracking;

8.2 WASTE AND HAZARDOUS MATERIALS

The company will be responsible for the removal of all waste material generated during the demolition. Where practical waste material will be recycled, where this is not possible it will be disposed of in a lawful manner. Absorbent material used to mop up minor oil or chemical spills will be disposed of appropriately as contaminated material.

8.2.1 Concrete

Generally, concrete will remain on site and be pulverised to remove the re-bar and then stockpiled for use later.

8.2.2 Asbestos

A detailed account of the company's process for asbestos removal is included in the Demolition Management Plan and Asbestos Control Plan.

Ref: PRO-039 Asbestos Removal

8.2.3 Chemical Container Wastes

The contents of any drums and containers around the site will be identified, removed and disposed of prior to commencement of Demolition. All worker(s) will wear suitable clothing and protection equipment where required as prescribed in the SWMS and JHA.

8.2.4 Domestic Waste

Domestic waste generated on site will mainly consist of food scraps and rubbish from the crib room. These scraps will be placed in domestic rubbish bins or skips located at each crib room, and recycled or disposed of by a licensed contractor.

8.2.5 Solid Waste

Solid waste is generated during deconstruction and shall be designated as recyclable and non-recyclable waste.

Recyclable waste consists of:

- Scrap steel (ferrous and nonferrous);

- Concrete and brick;
- Waste oil;

8.2.6 Non-Recyclable Waste

- Timber;
- Rubble;

This waste shall be stockpiled located around the site, collected and disposed of at the approved location.

8.2.7 Hazardous Waste

Hazardous waste may include paint and solvent containers, insulation materials, oils and cleaning chemicals.

- Hydrocarbon waste shall be collected, stored and transported offsite for recycling or disposal at an approved facility;
- Chemical waste shall be stored in accordance with the MSDS for that substance and shall be disposed of in accordance with EPA and local requirements;
- Any contaminated soils shall be placed in leak-proof containers and removed from site to an authorized facility;

9 STORAGE AND USE OF HAZARDOUS MATERIALS

The use and storage of hazardous materials on site may be required during the project. Therefore, it is imperative that all site worker(s) are aware of environmental procedures to ensure:

- Protection of the environment;
- Compliance with statutory requirements;
- Control risks associated with chemical hazards;
- Protection of the Health and Safety of worker(s);

9.1 CHEMICAL SUBSTANCES AT THE DEMOLITION SITE

Unnecessary procurement, storage and handling of hazardous materials must be managed to ensure possible environmental degradation is kept to a minimum.

Shell must be consulted before bringing any hazardous material on site and a Material Safety Data Sheet is provided and located on site for referencing.

Should there be a requirement for the use and storage of hazardous goods, the company will maintain a Hazardous Substance register.

9.2 MATERIAL SAFETY DATA SHEET

A Material Safety Data Sheet (MSDS) must be obtained for each substance brought onto the deconstruction site. The MSDS must be obtained from the manufacturer or supplier and be filed on site for references by worker(s).

Ref: WI-025 Hazardous Substances - Material Safety Data Sheets

9.3 LABELLING

All containers containing hazardous substances must be clearly labelled identifying its contents. Further information is available by referencing the MSDS, usually located in the project office. Prior to substances coming on site, approval will be gained from Shell.

Any decanted substances must be clearly labelled with the product name.

10 RISK ASSESSMENT

Risk Assessment involves the identification of hazards (potential to cause harm), the assessment of the risks posed by those hazards, the development of controls to eliminate and minimise risks and the ongoing management of the risk controls.

Risk Assessment and Risk Management strategies will be used consistently throughout the project. JHA's will be conducted prior to the commencement of each activity. The JHA is used to identify both WHS and Environmental hazards. If a task changes significantly or a change occurs in the environment, or other hazards are identified, the JHA will be reviewed.

A copy of the JHA will be available at the workplace and the original filed in the Project Office. The Project HSEQ Advisor is responsible for ensuring risk controls are implemented and monitored for effectiveness. The Project Manager is responsible for providing sufficient resources to ensure risk controls are implemented.

Ref: PRO-015 Hazard and Risk Management

WI-009 How to conduct a Hazard Risk Assessment

10.1 HAZARD IDENTIFICATION AND REPORTING

Any worker(s) identifying a hazard shall:

- Report the hazard immediately to the supervisor;
- Stand guard until the supervisor arrives to assess the hazard;
- The responsible supervisor shall ensure identified hazards are promptly reported and recorded on the hazard register;

All Hazards shall be actioned and signed off as completed in a timely manner. Hazards will be reported to the supervisor as soon as possible. If the hazard can be corrected or controlled by the worker(s) that identify it they must do so immediately. If

the hazard cannot be corrected or controlled the hazard must be isolated and other worker(s) protected from the hazard.

10.1.1 Take 5

Worker(s) are encouraged to be accountable for their own and others actions, and to immediately address issues that are unsafe or have unacceptable risk.

To facilitate this behaviour, the company will use the Take 5 System where all employees carry a formatted note book to help identify a hazard or potential hazard, which requires the individual to take action and document the action taken. All employees and subcontractors will be operating under this system and will be instructed in its use during the site induction.

All tasks will have a Take 5 carried out immediately before that task is undertaken.

Take 5 is a simple hazard identification and risk assessment, undertaken immediately prior to starting the task. It is designed to ensure that personnel assess each task for risk by completing the checklist as follows:

- Think through the task – break into steps;
- Spot the hazard – “What if”;
- Assess the risk;
- Make the changes;
- Do the job safely.

Ref: WI-011 Take 5

10.2 HAZARD INVESTIGATION

All environmental hazards and issues are to be reported as soon as practicable to the relevant supervisor.

The supervisor will investigate hazards reported immediately; the investigation findings will be detailed and reported back to the workgroup at the next opportunity (normally pre shift meeting).

The intent of Take 5 Hazard Identification is to be pro-active in identifying, evaluating and controlling hazards that may result in incidents involving injury, environmental issues or equipment damage.

Should the matter remain unresolved, it will then be addressed between the employee, their supervisor, and the Project Manager.

Ref: PRO-015 Hazard and Risk Management

11 MONITORING AND REPORTING

The company has a number of measurement indicators which help us to track progress on meeting policy commitments, and to achieve objectives and targets. We primarily collect and analyse data to evaluate the organization's environmental performance, and to evaluate the performance of the environmental management system.

These progress indicators are used across a range of activities such as storage and handling procedures, noise and air quality, disposal activities, and are primarily used to measure elements such as, the number of environmental incidents, the number of environmental accidents, the percentage of waste recycled, and, the number of prosecutions incurred by the company.

11.1 METHODS OF EVALUATION

We use a range of methods to evaluate our progress and compliance against the set criteria. These include processes such as

- Audits, both internal and external;
- Review of documents and/or records;
- Employee and Client feedback;
- Project or work reviews and reporting;
- Direct observation;

11.2 REPORTING

As a minimum on every project, the Project Manager will:

- Establish and maintain necessary records for the recording and reporting of environmental incidents at the workplace;
- Encourage worker participation in reporting environmental incidents;
- Ensure all environmental incidents are investigated and reported in accordance with company and client procedures;
- Notify the relevant Authority of environmental incidents, as required;

In general and where appropriate on specific projects, the Project Manager will take responsibility to:

- Arrange environmental talks, demonstrations, posters, etc. to promote environmental awareness where required and display the company's commitment;
- Investigate any environmental degradation at the workplace and promote interest in the environment and control strategies;
- Establish a daily checklist of those environmental issues considered in need of monitoring, such as; dust levels, noise levels and odour levels;

12 KEY PERFORMANCE INDICATORS

- Personal Safety: Zero recordable injuries; and
- Environmental: Zero spills to deck in areas of known contamination;