Victorian Desalination Project

D&C Plant and General Area Environmental Management Plan

Attachment I2 – Hazardous Materials Sub Plan

DOCUMENT NUMBER					
TDV	0	EV	SB	0011.I2	03

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Definitions and Acronyms

The following Definitions and Acronyms are used in this document:

ASS	Acid Sulfate Soils
Class One Environmental Incident	Class One Environmental Incidents create permanent or long term damage to the environment. This damage will result in the environment taking 12 months or more to return to pre-existing conditions or costs in excess of $50,000 to remediate. (See AEMP Attachment K-1).
Class Two Environmental Incident	Class Two Environmental Incidents create short to medium term damage to the environment. This damage will result in the environment taking up to 12 months to return to pre-existing conditions or costs in excess of $10 000 but not exceeding $50,000 to remediate. (See AEMP Attachment K-1).
Class Three Environmental Incident	Class Three Environmental Incidents typically cause short term or nuisance damage. The damage is easily rectified usually within one day. Class 3 incidents do not cause medium or long term damage or costs less than $10 000 to remediate. (See AEMP Attachment K-1).
CWMS	Construction Work Method Statements
D&C	Design and Construct Phase of the VDP
Dangerous Goods	Dangerous goods (as defined in the Australian Dangerous Goods Code) are substances that pose a risk to people, property or the environment, due to their chemical or physical properties. They are a subset of Hazardous Materials and are classified with reference to their immediate risk. Dangerous goods are subject to specific legislation in relation to storage, use and transport such as the Dangerous Goods Act 1985 (Vic).
DSE	Department of Sustainability and Environment
EES	Environment Effects Statement
EIRP	Environmental Incident Response Plan
EMP	Environmental Management Plan
EMR	Environmental Management Representative
EMS	Environmental Management System
EO	Environmental Officer
EPA	Victorian Environment Protection Authority
EP Act	*Environment Protection Act 1970*
Hazardous materials	Hazardous materials are solids, liquids, or gases that can harm people, other living organisms, property or the environment. A subset of Hazardous Materials are Dangerous Goods (as defined in the Australian Dangerous Goods Code) that are subject to specific legislation such as the Dangerous Goods Act 1985 (Vic).
IWMP	Industrial Waste Management Policy
JHA	Job Hazard Analysis

JSEA	Job Safety and Environmental Analysis
MSDS	Material Safety Data Sheet
NEPM	National Environment Protection Measure
O&M	Operation and Maintenance Phase of the VDP
OHS	Occupational Health and Safety
PASS	Potential Acid Sulfate Soils
Performance Criteria	The Performance Criteria outline the overarching requirements based on the environmental objective for each Subject Area of Schedule A of Appendix S3 of the Project Scope and Project Requirements
Plant site	Victorian Desalination Project Wonthaggi Plant site
PR	Performance Requirements
PS&PR	Project Scope and Project Requirements
SEP	Site Environmental Plans
SEPP	State Environment Protection Policy
The State	The Minister for Water of the State of Victoria for and on behalf of the Crown in the Right of the State of Victoria
TDJV	Thiess Degrémont Joint Venture
VENM	Virgin Excavated Natural Material
VDP	Victorian Desalination Project
WAP	Work Area Packages
WASS	Waste Acid Sulfate Soils
WP	Work Packs

1 Purpose and scope

This Hazardous Materials Sub Plan describes the hazardous materials and chemicals likely to be encountered on site and management measures required to ensure that avoidance and mitigation of potential impacts of hazardous materials and chemicals are adopted into the following phases of the Victorian Desalination Project (VDP):

1. Design and Construction (D&C)
2. Construction Verification and Cleaning
3. Pre-commissioning and Commissioning

This does not specifically include the OH&S aspects of hazardous materials, which is addressed in the project-wide OH&S Management Plan (PL-TDV-PM-0-X-605-0004).

This sub plan must be read in conjunction with the Environmental Management System (EMS) Manual, D&C Environmental Management Plan (D&C EMP), the D&C Plant and Area EMP and the Commissioning Environmental Sub Plan (CESP). This sub plan forms an attachment to the D&C Plant and General Area EMP and addresses requirements listed in the Environmental Compliance Tracker (TDV-0-EV-RP-0001-01), including licence conditions, Performance Requirements (PRs), Performance Criteria (PC) and other obligations which may involve hazardous materials.

Specific management measures from this and other environmental sub plans have been incorporated into Work Area Packages (WAP) and Work Packs (WP) which include Construction Work Method Statements (CWMS), Site Environmental Plans (SEP) and Job Safety and Environmental Analysis (JSEA's) where applicable.

Contaminated soil management is addressed in the Soil Management Sub Plan and Acid Sulfate Soil (ASS) management is dealt with in the Acid Sulfate Soil Sub Plan. Waste management (including hazardous waste) is addressed in the Resource Efficiency Sub Plan.

2 Objectives and Targets

The objective of this Hazardous Materials Sub Plan is to ensure there are no public health risks or loss of amenity arising from the use of hazardous materials or chemicals during the construction and to ensure project objectives, targets and obligations, including PRs and associated criteria, are met.

Table 1 outlines the relevant hazardous materials objectives and targets nominated to be achieved during the D&C phase of the VDP. Numbered entries are applicable performance requirements taken from Schedule A of Appendix S3 of the Project Deed. Non-numbered entries in Table 1 have been identified through earlier rounds of agency consultation.

Table 1: Plant and general area – environmental objectives, targets and performance requirements

Issue	Objective/Performance Criteria	Target/Performance Requirements
Hazardous Materials	**Protect beneficial uses of air, land, water, human and environmental health, from the impacts of hazardous materials and dangerous goods.** Manage, store, handle and dispose any hazardous substances and dangerous goods in accordance with relevant policies, regulations and guidelines including the Victorian WorkCover Authority and Australian Standard AS1940 Storage and Handling of Flammable and Combustible Liquids, EPA Best Practice Environmental Management - Environmental Guidelines for Major Construction Sites (1996) and EPA Publication 347 - (Bunding Guidelines) **(PR#19126) D, C.** **Minimise the use of chemicals during project activities** Minimise adverse effects of chemicals on the receiving environment **(PR#12089) D**	Develop and implement methods and management systems (including contingency plans) that: – Limit the on-site and on-vessel storage and/or use of hazardous substances and dangerous goods – Manage hazardous materials and dangerous goods to avoid environmental damage – Install bunds (if appropriate) and take precautions to reduce the risk of spills entering the stormwater drainage system – Seek to contain any spills captured by the stormwater drainage system – Provide for management of hydrocarbon spills **(PR#19128) D, C.** Undertake routine maintenance of construction equipment and monitor fuel storage tanks to reduce the potential for spills to occur **(PR#19129) C.** Design the pre-treatment, desalination and potabilisation systems to minimise chemical usage and to select chemical products that are proven to have minimal adverse effect on the receiving environment. **(PR#12091) D** No unauthorised offsite discharge of hazardous materials. **C**

D = Design phase requirement; C= Construct phase requirement

All PRs from Project Deed Schedule A of Appendix S3 are contained within the D&C Plant and General Area EMP Attachment G – Environmental Obligations Register. The Environmental Compliance Tracker tracks conformance with these PRs and is updated regularly by the TDJV Environmental Manager and Area Environmental Managers.

3 Legal, regulatory, licence, permits and approval requirements

- This sub plan has been developed in accordance with the following legislation and standards:
- Occupational Health and Safety Regulations, 2007
- *Health and Safety Act 2004*
- *Dangerous Goods Act 1985*

- Occupational Health and Safety (Asbestos) Regulations 2003 (Victoria)
- Dangerous Goods (Storage and Handling) Regulations 2000
- Occupational Health and Safety (Hazardous Substances) Regulations 1999
- *Pollution of Waters by Oil and Noxious Substances Act 1986* and Regulations 2002
- State Environment Protection Policy (Waters of Victoria) – Schedule F8 – Waters of Western Port and Catchment
- Code of Practice for the Storage and Handling of Dangerous Good, No. 27, 2000
- Australian Dangerous Goods (ADG) Code 7th edition
- Approved Criteria for Classifying Hazardous Substances, 2004, NOHSC:1008(2004), 3rd Edition
- National Code of Practice for Labeling of Workplace Hazardous Substances, 1994, NOHSC: 2012
- AS1940 The Storage and Handling of Flammable and Combustible Liquids – 2004 issue (as amended)
- EPA Best Practice Environmental Management – Environmental Guidelines for Major Construction Sites 1996
- EPA Publication 347 – Bunding Guidelines
- Victorian WorkCover Authority.

The legislative and contractual requirements for the D & C Plant and General Area are summarised in:

- D & C Plant and General Area EMP – Attachment E – Environmental Legislation Register
- D & C Plant and General Area EMP – Attachment F – Environmental License, Permit and Approval Register
- D & C Plant and General Area EMP – Attachment G – Environmental Obligations Register.

The applicable PRs from Project Deed Schedule A of Appendix S3 are provided in Table 1.

Under the Project Deed the D&C EMP, all sub plans and any changes to these must be endorsed by the State, who may refer aspects to relevant agencies.

The EPA and any other relevant agencies will be consulted with regard to any specific approval requirements of this environmental sub plan. The requirements of any permits, licences or approvals obtained will be placed in the Environmental Licence, Permit and Approval Register on receipt and updated in the Environmental Compliance Tracker.

4 Existing Conditions and Issues

4.1 Hazard identification

Example sources of hazardous chemicals during construction works may include (but will not be limited to):

- Oils and lubricants
- Fuels

- Solvents
- Gas Cylinders (argon gas if required for welding)
- Concrete curing agents
- Bentonite slurry
- Flocculants and coagulants
- Water Treatment Chemicals (acids and alkaline water adjustment chemicals)
- Cement
- Herbicide used in weed control.

These substances collectively possess corrosive, flammable, explosive, poisonous and/or oxidising characteristics and classifications.

4.2 MSDS Register

An MSDS Register has been compiled and is maintained at key workplace locations throughout the plant. It is readily accessible to all employees and emergency services and to relevant public authorities on request. As a minimum the register includes a list of all hazardous substances used, stored or produced at the workplace and their respective MSDS.

While the MSDS Register contains all substances used onsite that have an MSDS, Table 2 below focuses on those substances that pose more significant hazard.

Table 2: Hazardous materials and substances used onsite

Hazardous Materials and Substances	General Use	Further Information
Fuels (Diesel and Unleaded Petrol)	Used to power site-based vehicles and backup generators	Emergency Response Manual, MSDS Register
Oils and lubricants	Vehicle & plant maintenance &repairs	Emergency Response Manual, MSDS Register
Concrete retardant	Hardener for concrete slabs – reduces curing time	MSDS Register
Cement	Used for concreting areas – site establishment	MSDS Register
Tar	Construction of sealed roadways	MSDS Register
Acetone	Cleaner/ Preparation for Fibre glass pipe construction	MSDS Register
Vinyl ester resin	Used for laminating Fibre glass pipes	MSDS Register
Hydrogen peroxide	Environmental field testing for Acid Sulfate Soils	MSDS Register
Sodium Hydroxide 0.1M Solution	Environmental field testing for Acid Sulfate Soils – pH buffer solution	MSDS Register
Round up herbicide	Weed spraying, rarely used on site	MSDS Register
Bentonite Chips	Directional boring of conduits	MSDS Register
Drilling fluids compound	Geotechnical and environmental bore construction	MSDS Register
Lime (hydrated and quicklime)	pH adjustment of sediment ponds	MSDS Register
Paints and sealants	General site establishment, plumbing etc.	MSDS Register

5 Environmental risk

An environmental risk assessment has been carried out for the D&C Plant and General Area works. This assessment is contained in the Environmental Risk Register, Attachment C of the D&C Plant and General Area EMP. Table 3 summarises the potential hazards from project activities, potential impacts of these hazards and the risk of occurrence as rated by the environmental risk assessment.

Table 3: Summary of plant and general area risk assessment for Hazardous Materials

Activity posing hazard	Risk/ Potential Impact	Inherent Risk (before controls)	Control measure reference (Att I2.1)
Inappropriate hazardous material storage and disposal	Pollution of soils, receiving waters or potential harm / injury to personnel, flora and fauna via discharge of hazardous substance	High	#7 – 16, #24
Hazardous material storage and disposal including use of fuels, gases and concrete	Pollution of soils, receiving waters or potential harm / injury to personnel, flora and fauna via discharge of hazardous substance	High	#7 – 16, #24
Water treatment plant breakdown	Pollution of soils, receiving waters or potential harm / injury to personnel, flora and fauna via discharge of hazardous substance	High	See Attachment I9.1 (Water Quality & Erosion Mgt)
Spill resulting from equipment or plant failure (i.e. accidental rupture of tank, etc)	Pollution of soils, receiving waters or potential harm / injury to personnel, flora and fauna via discharge of hazardous substance	High	#20-24
Careless/negligent act leading to a spill	Pollution of soils, receiving waters or potential harm / injury to personnel, flora and fauna via discharge of hazardous substance	High	#4, #19, #21-24
Bund design is insufficient for the maximum volume of material stored	Pollution of soils, receiving waters or potential harm / injury to personnel, flora and fauna via discharge of hazardous substance	High	#21-24
Unexpected ignition of flammable and combustible liquids during normal construction operations	Pollution of soils, receiving waters or potential harm / injury to personnel, flora and fauna via discharge of hazardous substance	High	#1, #3, #5, #19,
Contamination of air, land and water,	Pollution of soils, receiving waters or	High	#8

and human and ecological health, due to the incorrect separation and segregation of hazardous and dangerous substances	potential harm / injury to personnel, flora and fauna via discharge of hazardous substance		
Traffic incident involving the transportation of bulk hazardous materials and dangerous substances	Pollution of soils, receiving waters or potential harm / injury to personnel, flora and fauna via discharge of hazardous substance	Extreme	#4-5, project wide Traffic Mgt Plan
Construction verification and cleaning Activities, including hydrotesting, leak testing, pipe cleaning and pressure testing.	Pollution of soils, receiving waters or potential harm / injury to personnel, flora and fauna via spill or discharge of hazardous substance. Inappropriate disposal of wastes.	High	#1-24
Commissioning activities, including commissioning of SWLPS, Pre-Treatment, RO and Potabilisation Areas.	Pollution of soils, receiving waters or potential harm / injury to personnel, flora and fauna via spill or discharge of hazardous substance. Inappropriate disposal of wastes.	High	#1-24

Attachment C of the D&C Utilities Area EMP and Attachment I.1 of the CESP should be consulted for a comprehensive assessment of these risks.

5.1 Hazardous Substance Risk Assessment (HSRA)

The HAZMAT Coordinator (nominated by the D&C Safety Manager) will compile a Hazardous Substance Risk Assessment (HSRA) for all hazardous materials and substances within the scope of D&C activities relating to plant site. The D&C Safety Manager is responsible for approving the HSRA and ensuring it is kept current. The D&C environmental team will assist the D&C Safety Manager and HAZMAT Coordinator where applicable during this process.

The purpose of the HSRA is to:

- identify each hazardous substance used or stored on-site
- obtain the MSDS and determine hazardous properties, storage and safe handling requirements, appropriate first aid and pollution controls for each hazardous substance, storage classification triggers, requirements for health surveillance, signage and training, permit and approval requirements, waste disposal classifications, and any other special requirements
- assess the hazardous substance for compatibility with other hazardous substances present
- assess the environmental conditions relevant to using and storing each substance, including proximity and transmission flow paths of spilled material to sensitive receptors (e.g. neighbours), stormwater drains and natural waterways
- encourage alternative materials and substances which are less hazardous.

The HSRA has implications for additional control measures, induction and training, monitoring and health surveillance as required by Victoria's *Occupational Health and Safety (Hazardous Substances) Regulations 1999* and other industry standards.

6 Control, management and mitigation measures

Attachment I2.1 describes a range of mitigation and control measures that will be used to minimise and manage potential hazardous material impacts. Control measures implemented on site in response to potential and actual hazardous material impacts will be recorded in the Weekly Environmental Inspection Checklist (FM-TDV-EN-0-X-000-0006) and records retained on site.

The measures in Attachment I2.1 are designed to address potential impacts from the risks outlined in Section 5 as well as deliver on the objectives, targets and in particular the PRs listed in Section 2. They include requirements and responsibilities for design, construction, evaluating performance and reporting.

Attachment I2.1 also references Design Packages (DPs) in design-related control measures. PRs that relate to design are addressed in accordance with the Design Management Plan (PL-TDV-PM-0-X-000-0011-0-00).

The Occupational Health and Safety Regulations and Approved Code of Practice for the Control of Workplace Hazardous Substances specify the requirements for the identification and management of hazardous substances. Substances used during construction that may be classed as hazardous will include all chemicals brought onto site and may come in the form of solids, liquids, gases, fumes and fibres. They include products such as strong acids and alkalis, solvents and reactive chemical agents.

All work involving the use of chemical substances shall be subject to the JSEA process. The JSEA process will address the hazardous qualities of the material to be used. No work shall be undertaken without known risk to both environment and human health being understood and adequate control measures in place. Work shall only be conducted with a copy of MSDS attached to the JSEA.

7 Site environmental plans

A single Site Environmental Plan (SEP) has been developed for the whole plant site that details environmental management measures such as permanent controls, No Go zones, property boundaries and significant flora and fauna species. These measures are implemented to minimise potential impacts of construction activity on the environment and community.

The information contained in the SEP is presented in pictorial and tabular drawing format. This is to make them easy to use by all site personnel, consultants and subcontractors. SEPs are updated to reflect operating practices on a regular basis.

The hazardous materials controls set out in the SEP are drawn from this sub plan. Additional practical management measures are picked up and covered by the Weekly Environmental Checklist.

SEPs are held onsite by Area Environment Managers.

8 Evaluating performance and reporting

Environmental audits and site environmental inspections (SEIs) are scheduled to detect where PRs and other environmental requirements are not being met with appropriate corrective actions developed to address these issues as they arise. Schedules, responsibilities and reporting procedures are set out in the Monitoring, inspection, audit and reporting schedule - Attachment L of the D&C Plant and General Area EMP.

Monitoring will be undertaken by appropriately qualified personnel, in accordance with the appropriate standards and guidelines as specified in Attachment L of the D&C Plant and General Area EMP.

9 Contingency measures

Contingency measures have been developed and are summarised below. The control measures table (Attachment I2.1) focuses on preventative measures.

All environmental incidents will be responded to in accordance with the plant site Environmental Incident Response Plan (EIRP). The EIRP provides project specific details for the identification of and response to potential environmental related incidents at the plant site during the D&C phase of the VDP. It provides guidance on strategies to manage potential and actual incidents, as well as follow-up and reporting requirements.

The environmental risk assessment has identified the following circumstances that could occur outside normal operating conditions:

- Unforeseen water and soil contamination due to a spill resulting from equipment (i.e. rupture of tank, etc)
- Accidental spill
- Unexpected ignition of flammable and combustible liquids during normal construction operations
- Contamination of air, land and water, and human and ecological health, due to the incorrect separation and segregation of hazardous and dangerous substances
- Traffic incident involving the transportation of bulk hazardous materials and dangerous substances.

If these circumstances occur, the contingency measures outlined in Figure 1 will be implemented.

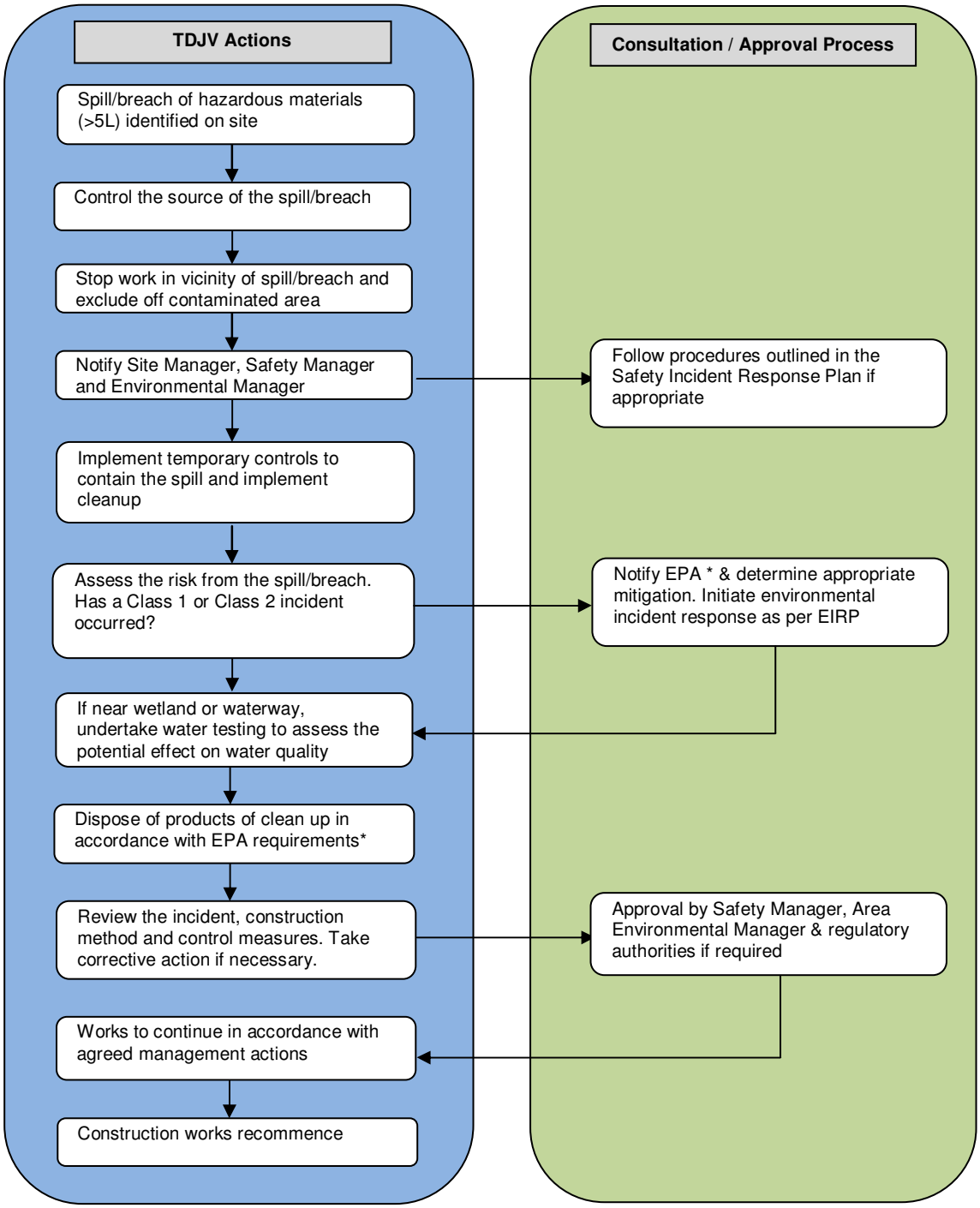

Figure 1: Spill/breach of hazardous materials – contingency measure

* EPA should be notified of any class 1 or class 2 incident.

10 References

- Occupational Health and Safety Regulations 2007: http://www.austlii.edu.au/au/legis/vic/consol_reg/ohasr2007382/
- Approved Criteria for Classifying Hazardous Substances, 2004, NOHSC:1008(2004), 3rd Edition: http://www.safeworkaustralia.gov.au/NR/rdonlyres/C3F31984-D009-415E-A5BA-F6CD5638A7EF/0/approved_criteriaNOHSC1008_2004.pdf
- Code of Practice for the Storage and Handling of Dangerous Good, No. 27, 2000: http://www.worksafe.vic.gov.au/wps/wcm/connect/WorkSafe/Home/Forms+and+Publications/Publications/import_Dangerous+Goods+Storage+and+Handling+(Code+of+Practice+No.27,+2000)
- Dangerous Goods (Storage and Handling) Regulations 2000: http://www.austlii.edu.au/au/legis/vic/consol_reg/dgahr2000435/
- Australian Dangerous Goods (ADG) Code, 7th edition: http://www.infrastructure.gov.au/transport/australia/dangerous/dg_code_6e.aspx#7e
- Occupational Health and Safety (Hazardous Substances) Regulations, 1999: http://www.dms.dpc.vic.gov.au/Domino/Web_Notes/LDMS/PubStatbook.nsf/0/2d0893364c664e8bca256e5b0021a795/$FILE/99-143sr.pdf
- National Code of Practice for Labelling of Workplace Hazardous Substances, 1994, NOHSC: 2012: http://www.safeworkaustralia.gov.au/NR/rdonlyres/47214656-0AEB-4568-9DF8-4A147CF3AB2E/0/LabellingCOPNOHSC_2012_1994.pdf
- AS 1940 – 2004 (as amended) The Storage and Handling of Combustible and Flammable Liquids: http://www.saiglobal.com/PDFTemp/Previews/OSH/As/as1000/1900/1940.pdf
- Western Port Region Marine Pollution Contingency Plan: http://www.marinesafety.vic.gov.au/doi/doielect.nsf/2a6bd98dee287482ca256915001cff0c/bf99894593f95210ca256fbf001971b3/$FILE/Western%20Port%20Region%20PDF%20for%20web%20page.pdf
- Chemwatch: http://full.chemwatch.net

ATTACHMENT I2.1 HAZARDOUS MATERIALS MANAGEMENT – CONTROL MEASURES TABLE

ATTACHMENT I2.1 HAZARDOUS MATERIALS – CONTROL MEASURES TABLE

#	Issue	PR # addressed	Measure	Responsibility *	Project Phase	Evidence	Audit Check
1	Avoidance of Hazardous Materials	19128, 12089	Limit the on-site storage and/or use of hazardous materials	Construction Manager	Construct	Procurement records, Site inspection records	
2	Minimise use of chemicals in plant design	12089, 12091, 19128	Design the pre-treatment, desalination and potabilisation systems to minimise hazardous material usage and to select products that are proven to have minimal adverse effect on the receiving environment. The following designs are applicable: DP 2-0001 - Plant Process Design Concept DP 2-0022 RO Chemicals Building - Process & Mechanical Piping DP 3-0100 - Pipeline Overview Report	Design Package Managers	Design	Verified designs	
3	Chemical Awareness and Procedures	19126, 19128	MSDS are readily available for all hazardous substances used or stored at the site	Site Manager, HAZMAT Coordinator	Construct	MSDS Register	

#	Issue	PR # addressed	Measure	Responsibility *	Project Phase	Evidence	Audit Check
4	Training	-	All employees and sub contractors will receive induction training which will include the safe use of hazardous substances being used at the workplace. The training provided shall be commensurate with the associated risks and will include (but not be limited to) the following (as outlined in the Approved Code of Practice for Workplace Hazardous Substances): – The labelling of containers of hazardous substances, the information that each part of the label provides and why the information is being provided – The availability of MSDS for hazardous substances, how to access the MSDS and the information that each part of the MSDS provides – Information about hazardous substances to which employees are or may be exposed in the course of their work (information should include the nature of the hazards and risks to the environment) – The assessment process and how the employee can contribute – The work practices and procedures to be followed in the use, handling, processing, storage, transportation, cleaning up and disposal of hazardous substances – The procedures to be followed in case of an emergency involving hazardous substances, including any special decontamination procedures to be followed – Requirement to limit the on-site and on-vessel storage and/or use of hazardous materials. Enforcement that only the hazardous materials required to do the task are to be brought on to site.	Project Manager, All employees	Construct	Training records	
5	Chemical Awareness and Procedures	-	All work involving the use of hazardous materials shall be subject to the Job Safety and Environment Analysis (JSEA) process. The JSEA process will address the hazardous qualities of the material to be used. No work shall be undertaken without known risk to both environment and human health being understood and adequate control measures in place. Work shall only be conducted with a copy of the Material Safety Data Sheet (MSDS) attached to the JSEA.	HAZMAT Coordinator and Safety Officers	Construct	JSEA records	

#	Issue	PR # addressed	Measure	Responsibility *	Project Phase	Evidence	Audit Check
6	Material identification	19126, 19128	Identify and record the type, volume and concentration of hazardous materials that are used and stored	HAZMAT Coordinator	Construct	Current HAZMAT materials records	
7	Storage	19128	Refuelling of vehicles and storage of hazardous materials and related equipment will not occur within 30m of a waterway, wetlands, drainage channels or sediment ponds and will not occur in areas subject to inundation or drainage	Site Manager	Design, Construct	Site Plans and Site Inspection records	
8	Storage	19126, 19128	Appropriate segregation and separation of hazardous materials during storage will be established as required by the Dangerous Goods (Storage and Handling) Regulations 2000, the Occupational Health and Safety (Hazardous Substances) Regulations 1999 and the Code of Practice for the Storage and Handling of Dangerous Goods, No. 27, 2000.	HAZMAT Coordinator and Safety Officers	Construct	Site inspection records	
9	Storage	19126, 19128	Dangerous goods storage areas will be isolated from all sources of ignition and appropriate fire extinguisher coverage provided	HAZMAT Coordinator and Safety Officers	Construct	Site plans and site inspection records	
10	Storage	19126, 19128	Dangerous goods storage areas will be posted with the relevant HAZCHEM signage and emergency response information at the entry to site	HAZMAT Coordinator and Safety Officers	Construct	Site inspection records	
11	Storage	19126, 19128	Bulk fuel storage areas (drums or bulk storage tanks will be bunded in accordance with EPA Bunding Guidelines(EPA Publication 347, Dec 1992))	HAZMAT Coordinator and Safety Officers	Construct	JSEAs and Site Environmental Plans	
12	Storage	19126, 19128	The ground around the hazardous materials storage area will be kept clear of combustible vegetation or refuses for a distance of not less than 3 metres	HAZMAT Coordinator and Safety Officers	Construct	JSEAs and Site Environmental Plans	

#	Issue	PR # addressed	Measure	Responsibility *	Project Phase	Evidence	Audit Check
13	Storage	19126, 19128	The storage area for bulk fuels will be at least 15 metres away from any buildings such as workshops, administration or amenities	HAZMAT Coordinator and Safety Officers	Construct	JSEAs and Site Environmental Plans	
14	Storage	19126, 19128	Hazardous materials not in use are sealed and safely stored in a secure area	HAZMAT Coordinator and Safety Officers	Construct	JSEAs and Site Environmental Plans	
15	Storage	19126, 19128	Gas cylinders are stored and secured against toppling over	HAZMAT Coordinator and Safety Officers	Construct	JSEAs and Site Environmental Plans	
16	Storage	19126, 19128	Hazardous materials storage/containment and disposal is in accordance with the MSDS (including personal protective equipment, ventilation, spill containment and precautions to avoid fire). All waste produced from chemical usage will be tested in accordance with EPA requirements to identify the correct disposal requirements. If the waste is a prescribed waste a licensed waste contractor will be used to transport the waste to a licensed disposal facility as per EPA requirements. All prescribed waste will be tracked via EPA waste tracking dockets.	HAZMAT Coordinator and Safety Officers	Construct	JSEAs and Site Environmental Plans	
17	Labelling and Signposting	19126, 19128	All original containers are to be labelled to accurately identify the hazardous contents (product name and chemical name) and include appropriate risk and safety phrases, first aid and emergency procedures and the manufacturers or importers details (National Code of Practice for Labelling of Workplace Hazardous Substances NOHSC: 2012 (1994))	HAZMAT Coordinator and Safety Officers	Construct	JSEAs and Site Environmental Plans	
18	Labelling and Signposting	19126, 19128	Bulk storages of hazardous materials will be placarded.	Site Manager	Construct	JSEAs and Site Environmental Plans	

#	Issue	PR # addressed	Measure	Responsibility *	Project Phase	Evidence	Audit Check
19	Incident Management	-	Emergency response training will be provided through incident simulations and general inductions. Incident management (including spill control and clean-up measures) will be undertaken in accordance with the relevant MSDS and the Environmental Incident Response Plan.	Construction Managers / Health and Safety Manager / Environment Manager	Construct	Induction records	
20	Routine maintenance	-	Undertake routine maintenance of construction equipment for prevention of fuel leaks, visible exhaust emissions or other maintenance issues.	Site Manager	Construct	Equipment maintenance records	
21	Spill risk reduction	-	Install bunds as per EPA Bunding Guidelines (EPA Publication 347, Dec 1992) to reduce the risk of spills entering the stormwater drainage system.	Environment Manager	Construct	SEP, SEI	
22	Spill risk reduction	19128	Ensure appropriate capacity spills kits are readily accessible to areas where hazardous materials and specifically hydrocarbons are stored.	HAZMAT Coordinator	Construct	Site Inspection records	
23	Spill risk reduction	-	Develop refuelling procedures and ensure that these measures are implemented on a day-to-day basis	HAZMAT Coordinator	Construct	Refuelling procedure, Site Inspection records	
24	Spill clean up procedures	19128	Clean up all spills immediately. Contain and absorb spill with sand, earth, inert material or vermiculite. Wipe up. Place in a suitable, labelled container for waste disposal. Refer to the Plant and General Area Environmental Incident Response Plan (EIRP) for location of on-site of spill containment materials and equipment. Clean area and DO NOT discharge into sewer or waterways. Return clean up material to supplier for reuse/ recycling if possible. If reuse or recycling is not possible, the waste will be collected by SITA Environmental Solutions.	Site Manager	Construct	Daily logs	

* The *Responsibilities* column refers in many cases to senior positions within the project organisation, due to the changing nature of project teams. In practice some responsibilities may be delegated by the person nominated.