

# Victorian Desalination Project



## D&C Utilities Environmental Management Plan Attachment I2 – Hazardous Materials Sub Plan

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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
DSE	Department of Sustainability and Environment
EES	Environment Effects Statement
EIRP	Environmental Incident Response Plan
EMP	Environmental Management Plan
EPA	Victorian Environment Protection Authority
EP Act	<i>Environment Protection Act 1970</i>
Frac-out	A frac-out is caused when excessive drilling pressure during horizontal directional drilling (HDD) results in drilling mud propagating toward the surface.
JSEA	Job Safety and Environmental Analysis
MSDS	Material Safety Data Sheet
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
Project Area	Refers to all areas designated for the project as defined in the Project Deed including both the plant area and the utilities corridor
PR	Performance Requirements



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PS&PR	Project Scope and Project Requirements
SEI	Site Environmental Inspection
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 Degremont Joint Venture
Utilities corridor	Construction footprint of the Victoria Desalination Project transfer pipeline, power supply and associated utilities
VENM	Virgin Excavated Natural Material
VDP	Victorian Desalination Project
VDP Utilities	Collective term used to refer to the power supply, transfer pipeline and communications components of the VDP including compensations reaction stations, surge vessels and the booster pump station. Refer to Section 1.4 of the Utilities Area EMP for further description of these utilities.
WAP	Work Area Packages
WASS	Waste Acid Sulfate Soils
WP	Work Packs



## 1 Purpose and scope

The 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 design and construction (D&C) of the Victorian Desalination Project (VDP) transfer pipeline and power supply (collectively referred to as the utilities corridor). This does not specifically include the OH&S aspects of hazardous materials, which are 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) and D&C Utilities Area EMP. This sub plan forms an attachment to the D&C Utilities 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 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 of the VDP utilities 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: Environmental objectives, targets and performance requirements**

Issue	Objective/Performance Criteria	Target/Performance Requirements
Hazardous Materials	<p><b>Protect beneficial uses of air, land, water, human and environmental health, from the impacts of hazardous materials and dangerous goods.</b></p> <p>Manage, store, handle and dispose any hazardous substances and dangerous goods in accordance</p>	<p>Develop and implement methods and management systems (including contingency plans) that:</p> <ul style="list-style-type: none"> <li>– Limit the on-site and on-vessel storage and/or use of hazardous substances and dangerous goods</li> <li>– Manage hazardous materials and dangerous goods to avoid environmental</li> </ul>

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Issue	Objective/Performance Criteria	Target/Performance Requirements
	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) <b>(PR#19126) D, C.</b>	<p>damage</p> <ul style="list-style-type: none"> <li>- Install bunds (if appropriate) and take precautions to reduce the risk of spills entering the stormwater drainage system</li> <li>- Seek to contain any spills captured by the stormwater drainage system</li> <li>- Provide for management of hydrocarbon spills</li> </ul> <p><b>(PR#19128) D, C.</b></p> <p>Undertake routine maintenance of construction equipment and monitor fuel storage tanks to reduce the potential for spills to occur</p> <p><b>(PR#19129) C.</b></p> <p>No unauthorised offsite discharge of hazardous materials. <b>C</b></p>

D = Design phase requirement; C= Construct phase requirement

All PRs from Project Deed Schedule A of Appendix S3 are contained within the D&C Utilities 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 7<sup>th</sup> edition
- ~ Approved Criteria for Classifying Hazardous Substances, 2004, NOHSC:1008(2004), 3<sup>rd</sup> Edition
- ~ National Code of Practice for Labeling of Workplace Hazardous Substances, 1994, NOHSC: 2012
- ~ AS1940 The Storage and Handling of Flammable and Combustible Liquids – 1993



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- ~ 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 Utilities are summarised in:

- ~ D & C Utilities EMP – Attachment E – Environmental Legislation Register
- ~ D & C Utilities EMP – Attachment F – Environmental License, Permit and Approval Register
- ~ D & C Utilities 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

The utilities corridor of the VDP will extend some 85km, from the desalination plant on the Bass Coast to Melbourne Water's Cardinia-Pearcedale main in Berwick with a construction easement approximately 40m wide. The power supply will be constructed in the same corridor as the transfer pipeline, except for the final 8km at the Cranbourne end where the electricity corridor will divert to the Cranbourne terminal station. The utilities corridor traverses a range of land uses and other areas that would be sensitive to hazardous materials including:

- ~ rural townships including Wonthaggi, Woolamai, Kerot, The Gurdies, Lang Lang, Koo Wee Rup and Cardinia
- ~ agricultural and grazing land
- ~ numerous waterways including those leading to the Western Port Ramsar Wetland
- ~ areas of native vegetation and associated habitat for rare and threatened native fauna and flora.

### 4.1 Hazard identification

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

- ~ Oils and lubricants
- ~ Fuels
- ~ Solvents
- ~ Gas Cylinders (argon gas if required for welding)
- ~ Biosecurity washdown chemical (Phytoclean and Hibatane).
- ~ Concrete curing agents
- ~ Bentonite slurry
- ~ Cement
- ~ Herbicide used in weed control.



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These substances collectively possess corrosive, flammable, explosive, poisonous and/or oxidising characteristics and classifications. Environmental hazards associated with these materials based on information provided by MSDS and the proprietary Chemwatch.

### 4.2 MSDS Register

An MSDS Register has been compiled and relevant MSDS are included in each work pack. It is readily accessible to all employees and emergency services and to relevant public authorities on request.

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.





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**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
Cement	Used for concreting areas – site establishment	MSDS Register
Tar	Construction of sealed roadways	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
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 Utilities works. This assessment is contained in the Environmental Risk Register, Attachment C of the D&C Utilities 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 utilities risk assessment for Hazardous Materials**

Activity posing hazard	Risk/ Potential Impact	Inherent Risk (before controls)	Control Measure Reference (Att I02.1)
Use and storage of hazardous substances	Pollution of soils and receiving waters via discharge of contaminated water from excavations	Moderate	#1-4, 7
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	Moderate	#1-4, 7
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	#12, 19-24
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	#2-4, 6-7
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	#12, 21
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	#1-4, 9-10, 13-15, 19-20

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Contamination of air, land and water, and human and ecological health, due to the incorrect separation and segregation of hazardous and dangerous substances	Pollution of soils, receiving waters or potential harm / injury to personnel, flora and fauna via discharge of hazardous substance	High	All (#1-24)
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	High	#4-5, 7, 16

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

The following risks were not deemed as significant in the environmental risk assessment, but are included below for completeness:

- ~ Frac-out (escape of drilling mud into the environment as a result of a spill, tunnel collapse or the rupture of mud to the surface) during horizontal directional drilling of power supply cable beneath waterways and crossings resulting in pollution of receiving waters (dealt with in the Waterways and Wetlands Sub plan under section 9.3)
- ~ Spill of concrete or concrete residue waters during decommissioning of groundwater bores, piling for the booster pump station or cleaning of cement mixers and tools used in grouting of the internal joints of the transfer pipeline resulting in pollution of receiving waters or soils (dealt with as part of spill/ breach of hazardous materials in Figure 1, section 9).

## 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.

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.



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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**

Site Environmental Plans (SEPs) have been developed for the utilities corridor that detail practical environmental management measures implemented to minimise potential impacts of construction activity on the environment and community.

The information contained in the SEPs 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 material controls set out in the SEPs are drawn from this sub plan.

SEPs are held by Area Environment Managers.

### **8 Evaluating performance and reporting**

Environmental audits and site environmental inspections (SEIs) are scheduled to detect where PRs 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 Utilities 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 Utilities 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 Utilities Environmental Incident Response Procedure (EIRP). The EIRP provides project specific details for the identification of and response to potential environmental related incidents along the utilities corridor work sites 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
- ~ The bund design is insufficient for the maximum volume of material stored



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- ~ 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.

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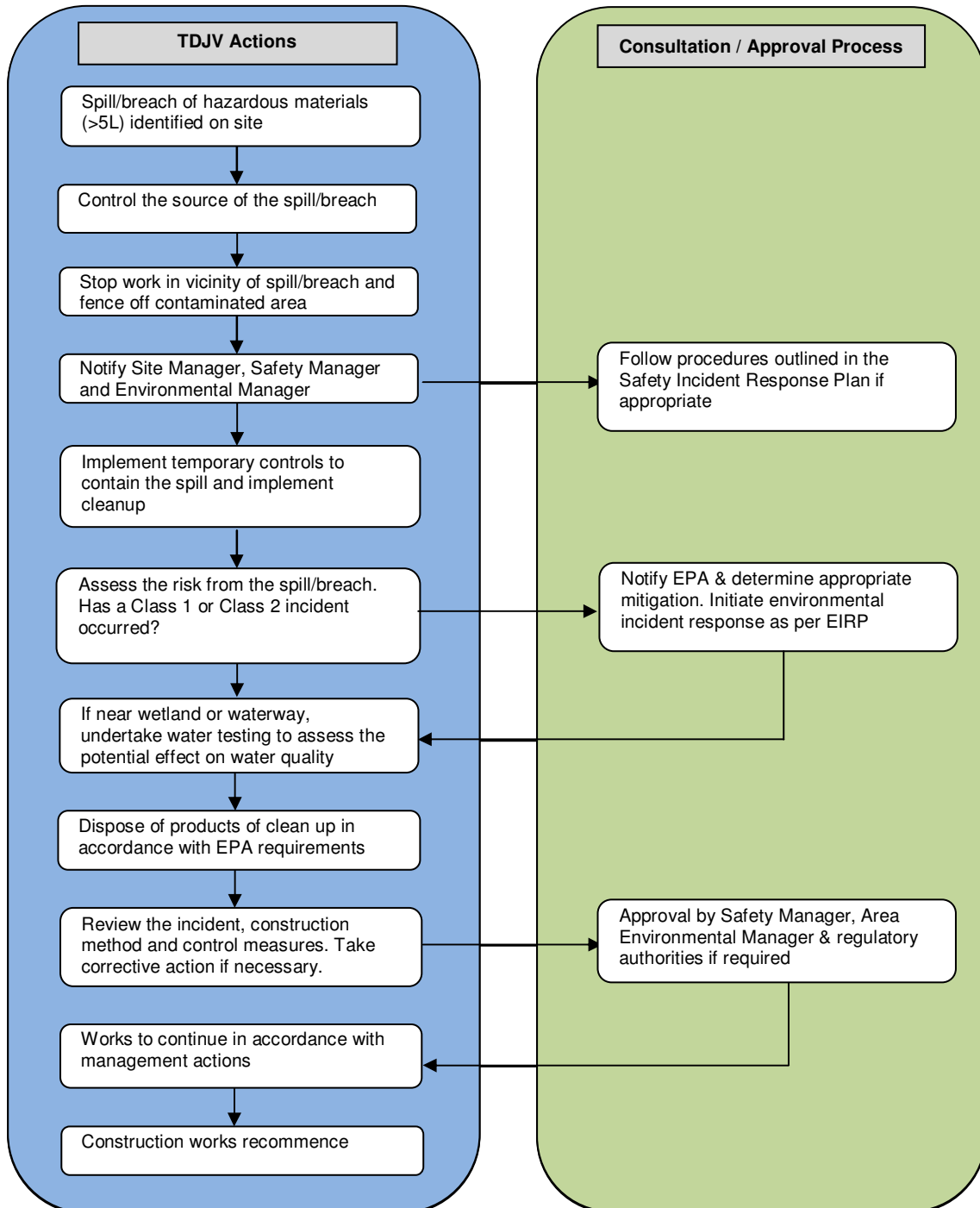


Figure 1: Spill/bleach of hazardous materials – contingency measure



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### 10 References

- ~ Occupational Health and Safety Regulations 2007:  
[http://www.austlii.edu.au/au/legis/vic/consol\\_reg/ohasr2007382/](http://www.austlii.edu.au/au/legis/vic/consol_reg/ohasr2007382/)
- ~ Approved Criteria for Classifying Hazardous Substances, 2004, NOHSC:1008(2004), 3<sup>rd</sup> Edition:  
[http://www.safeworkaustralia.gov.au/NR/rdonlyres/C3F31984-D009-415E-A5BA-F6CD5638A7EF/0/approved\\_criteriaNOHSC1008\\_2004.pdf](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+\(Code+of+Practice+No.27,+2000\)](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/](http://www.austlii.edu.au/au/legis/vic/consol_reg/dgahr2000435/)
- ~ Australian Dangerous Goods (ADG) Code, 7<sup>th</sup> edition:  
[http://www.infrastructure.gov.au/transport/australia/dangerous/dg\\_code\\_6e.aspx#7e](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](http://www.dms.dpc.vic.gov.au/Domino/Web_Notes/LDMS/PubStatbook.nsf/0/2d0893364c664e8bca256e5b0021a795/$FILE/99-143sr.pdf)
- ~ National Code of Practice for Labelling of Workplace Hazardous Substances, 1994, NOHSC: 2012:  
[http://www.safeworkaustralia.gov.au/NR/rdonlyres/47214656-0AEB-4568-9DF8-4A147CF3AB2E/0/LabelingCOPNOHSC\\_2012\\_1994.pdf](http://www.safeworkaustralia.gov.au/NR/rdonlyres/47214656-0AEB-4568-9DF8-4A147CF3AB2E/0/LabelingCOPNOHSC_2012_1994.pdf)
- ~ AS 1940 – 1993 The Storage and Handling of Combustible and Flammable Liquids:  
<http://www.saiglobal.com/PDFTemp/Previews/OSH/As/as1000/1900/1940.pdf>
- ~ Western Port Region Marine Pollution Contingency Plan:  
[http://www.marinesafety.vic.gov.au/doi/doielect.nsf/2a6bd98dee287482ca256915001cff0c/bf99894593f95210ca256fbf001971b3/\\$FILE/Western%20Port%20Region%20PDF%20for%20web%20page.pdf](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>



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## **ATTACHMENT I2.1 HAZARDOUS MATERIALS MANAGEMENT – CONTROL MEASURES TABLE**



## ATTACHMENT I2.1 HAZARDOUS MATERIALS – CONTROL MEASURES TABLE

#	Issue	PR # addressed	Control Measure	Responsibility *	Project Phase	Evidence	Audit Check
1	Avoidance of Hazardous Materials	19128, 12089	Limit the on-site storage and/or use of hazardous substances and dangerous goods	Construction Manager	Construct	Procurement records, Site inspection records	
2	Chemical Awareness and Procedures	19126, 19128	Ensure MSDS are readily available for all hazardous substances used or stored at the site.	Site Manager, Safety Manager	Construct	MSDS Register, Workpacks	
3	Chemical Awareness and Procedures	-	All work involving the use of chemical substances 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.	Safety Officers	Construct	JSEA records, Workpacks	

#	Issue	PR # addressed	Control Measure	Responsibility *	Project Phase	Evidence	Audit Check
4	Training	-	<p>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):</p> <ul style="list-style-type: none"> <li>- The labelling of containers of hazardous substances, the information that each part of the label provides and why the information is being provided</li> <li>- The availability of MSDS for hazardous substances, how to access the MSDS and the information that each part of the MSDS provides</li> <li>- 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)</li> <li>- The assessment process and how the employee can contribute</li> <li>- The work practices and procedures to be followed in the use, handling, processing, storage, transportation, cleaning up and disposal of hazardous substances</li> <li>- The procedures to be followed in case of an emergency involving hazardous substances, including any special decontamination procedures to be followed.</li> <li>- Requirement to limit the on-site and on-vessel storage and/or use of hazardous substances and dangerous goods. Enforcement that only the substances or goods required to do the task are to be brought on to site.</li> </ul>	Project Manager, All employees	Construct	General Area Induction Content, Induction records	
5	Removal of Asbestos	20134	Remove and otherwise handle any materials containing asbestos in accordance with EPA Industrial Waste Resource Guideline – Asbestos - Transport and Disposal . This is handled in Figure 1 of the Contaminated Land Procedure, Attachment I7.2 to the Soil Management Sub Plan.	Safety Manager	Construct	Waste transport certificates	

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#	Issue	PR # addressed	Control Measure	Responsibility *	Project Phase	Evidence	Audit Check
6	Material identification	19126, 19128	Identify and record the type, volume and concentration of chemicals that are used and stored	Safety Manager	Construct	Current HAZMAT materials records	
7	Storage	19126, 19128	Each chemical substance will be stored and disposed of in accordance with the requirements specified by the MSDS	Workplace Managers	Construct	Waste disposal records	
8	Storage	19128	Bulk storage chemicals will not occur within 30-50m of a waterway and will not occur within a floodplain or land subject to inundation	Site Manager	Design, Construct	SEPs and Site Inspection records	
9	Storage	19126, 19128	Appropriate segregation and separation of dangerous goods during storage will be established as required by the regulations	Safety Officers	Construct	Site inspection records	
10	Storage	19126, 19128	Dangerous goods storage areas will be isolated from all sources of ignition and appropriate fire extinguisher coverage provided	Safety Officers	Construct	Site plans and site inspection records	
11	Storage	19126, 19128	Dangerous goods storage areas will be posted with the relevant HAZCHEM signage and emergency response information at the entry to site	Safety Officers	Construct	Site inspection records	
12	Storage	19126, 19128	Bulk fuel storage areas (drums or bulk storage tanks) will be banded in accordance with EPA Bunding Guidelines**	Safety Officers	Construct	JSEAs and Site Environmental Plans	
13	Storage	19126, 19128	The ground around the storage area will be kept clear of combustible vegetation or refuses for a distance of not less than 3 metres	Safety Officers	Construct	JSEAs and Site Environmental Plans	

#	Issue	PR # addressed	Control Measure	Responsibility *	Project Phase	Evidence	Audit Check
14	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**	Safety Officers	Construct	JSEAs and Site Environmental Plans	
15	Storage	19126, 19128	Gas cylinders are stored and secured against toppling over	Safety Officers	Construct	JSEAs and Site Environmental Plans	
16	Storage	19126, 19128	Substance storage/containment and disposal is in accordance with the MSDS (including personal protective equipment, ventilation, spill containment and precautions to avoid fire).	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))	Safety Officers	Construct	JSEAs and Site Environmental Plans	
18	Labelling and Signposting	19126, 19128	Bulk storages of hazardous substances will be placarded.	Site Manager	Construct	JSEAs and Site Environmental Plans	
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(s) and the Project Environmental Emergency Plan.	Construction Managers / Health and Safety Manager / Area 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. Maintenance will be in designated and controlled areas only.	Site Manager	Construct	Equipment maintenance records	

#	Issue	PR # addressed	Control Measure	Responsibility *	Project Phase	Evidence	Audit Check
21	Spill risk reduction	-	Install bunds where appropriate to reduce the risk of spills entering the stormwater drainage system.	Area 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.	Site Manager	Construct	Site Inspection records	
23	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. Clean area and DO NOT discharge into sewer or waterways. Return to supplier for reuse/ recycling if possible	Site Manager	Construct	Daily logs	
24	Maintenance	19129	Undertake routine maintenance of construction equipment and monitor fuel storage tanks to reduce the potential for spills to occur	Site Manager	Construct	Maintenance records	

\* 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.

\*\* It is not anticipated that bulk fuel storage will be required during the construction of the VDP Transfer Pipeline or Power Supply.