SWI - ESP - Operation of Stormwater Drainage System on Berth 2

1. PURPOSE

The purpose of the SWI is to provide a safe system of work for carrying out the operation of the stormwater drainage system on Berth 2 to minimise movement of contaminants from Berth 2 into the marine environment following either a rainfall event or an accidental spill.

2. Fatal 5 Risk / Environmental

2.1 Select the applicable Fatal 5 risk (s)

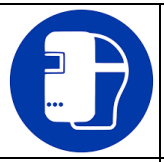
 Fall from height	☒	 Stored Energy	☐	 Collision	☒	 Asphyxiation	☒	 Entanglement	☐

2.2 Environmental and Hygiene Considerations

☒ Environmental Spills	☐ Air Pollution (incl. dust)	☐ Noise Pollution	☒ Hazardous Waste	☐ Bio Security (Pests/Weeds)	☒ Flora & Fauna

3. PLANNING

3.1 Specialised PPE Required

											
☐	☐	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐
Goggles	**Double Eye Protection**	**Welding Mask**	**Face Mask**	**Respirator**	**Gas Detector**	**Gloves**	**Hearing Protection**	**Apron**	**PFD**	**Fall Protection**	

3.2 Permits Required

☐ Working at Heights	☐ Confined Space	☐ Hot Work	☐ Excavation	☐ Penetration	☐ Rail Corridor	☐
☐ Isolation Guide #		☐	☐	☐	☐	☐

3.3 Tools, Plant and Equipment Required	Inspection Completed?
Large adjustable spanner for Berth 2 stormwater discharge valve	Yes ☐ N/A ☐
PFD for working within 2 meters of the water's edge on the Berth and on the pilot boat landing at Eastern end of Berth 2.	Yes ☐ N/A ☐
	Yes ☐ N/A ☐

3.4 Hazardous Chemicals Required	Safety Data Sheet
	Attached ☐
	Attached ☐
	Attached ☐

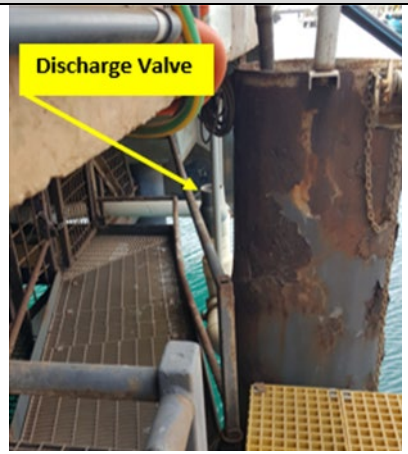
3.5 Training and Competencies Required	Competency
	Held ☐
	Held ☐
	Held ☐

4. PROCEDURE

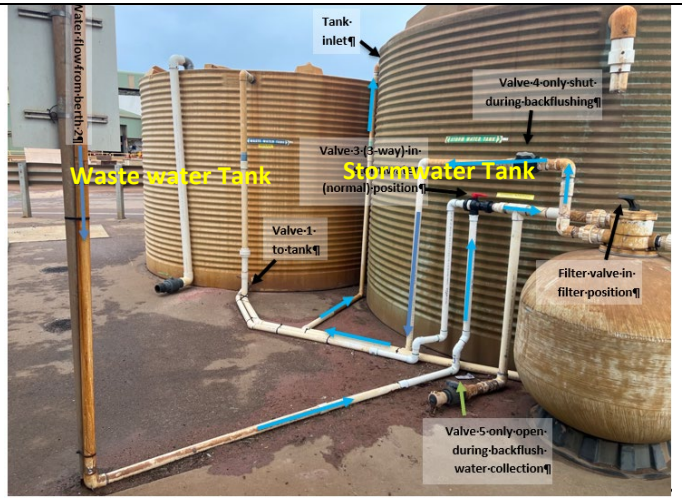
4.1 Job Steps

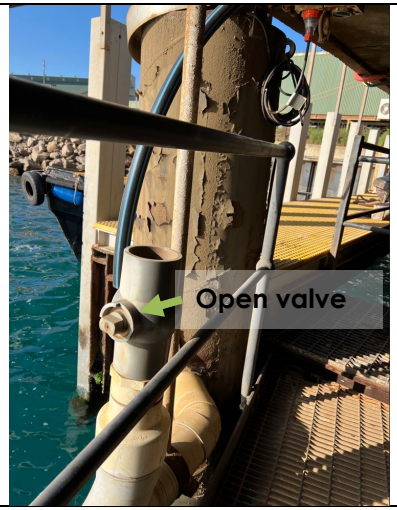
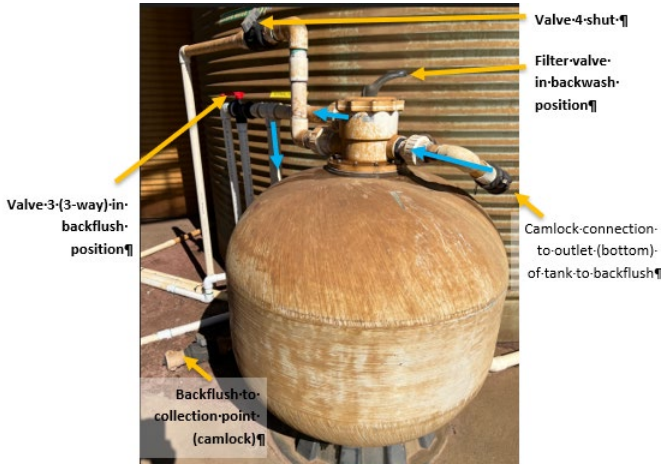
***Circle* which step numbers are relevant to the current task. *Strike out* steps which do not apply.**

Step #1	**PREPARATION (Access, egress, barricades etc.)**		Risk Level
1.1	Take large adjustable spanner (to open/close Berth 2 stormwater discharge valve)		
1.2	Wear PFD and work with 2 people (the valve is within 2m of the ocean)		

Step # 2	STEPS REQUIRED TO COMPLETE THE TASK / JOB		Risk Level
2.1	Movement of contaminants into the marine environment is minimised by containment of the 'first flush' rainfall as required by stormwater legislation. Based on Esperance rainfall data, the first flush is defined as 11mm. • The first 11mm of rainfall is captured from the berth and collected in the water tanks on Berth 2. (11mm of rainfall approximately fills the 30m^3 tank). • After the first flush the discharge valve is opened to allow rainwater to flow into the ocean (if there are no vessels on Berth 2). Stormwater pipes carry water from Berth 2 to the eastern end of the berth. • The discharge valve located on the landing behind the large metal pipe (see photos) should be left in the closed (OFF) position at all times except when >11mm of rainfall has occurred following handling of bulk product on Berth 2. This includes: Fertiliser, sulphur, nickel/copper and spodumene. Rainfall can be read on the Port Met Station using Airodis. NOTE: Discharge valve shown in the shut (OFF) position. The valve has two flat sides and two curved sides. The valve is OFF when the flat sides are facing horizontal =	 	***Low***

2.2	**Red Valve beneath Berth 2 in OPEN position:** • The red valve on the water pipes located beneath Berth 2, past the locked gate, needs to be in the OPEN position at all times (valve should be positioned parallel to the pipe). This allows water to drain from the berth and can be pumped into the water tanks on Berth 2 or released into the ocean after 11mm of rainfall.		***Low***
2.3	**Turn Submersible Pump ON** • The submersible pump located on the east end landing inside the metal pipe (metal sump pump) – see photo. Please ensure that the power is ON. This should be ON at all times. The power outlet is located on the side of the concrete to the left of the metal sump pump.		***Low***

2.4	There are two 30,000L (30m^3) storage tanks located eastern end of Berth 2. **<u>Stormwater Tank (RHS in photo, or</u>** ocean side) is used for all waters from Berth 2 except for fertiliser wash waters. **<u>Waste Water Tank (Fertiliser Tank):</u>** (located landward side of Berth 2) collects water from the berth during unloading and at clean-up from a Fertiliser ship ('Cleanup Checklist for Fertiliser Inloading' (HPRM D16/976)). **Water Filter:** • Water is filtered before being piped into the Stormwater Tank. The black lever at the top will be in the ON position, ready to filter water to the stormwater tank, when it is facing forwards (towards the operator, as shown in the photo). • For normal operations ensure other valves are as shown in the photo		***Low***
2.5	**Monitor water level in tank on Berth 2:** • If the tank is 2/3 full, contact the Terminal Supervisor to arrange for Cleaning Contractor to empty tank. The Cleaning Contractor will look after the operation of this system. <u>The first flush of rain (11mm) usually fills up the 30m3 'Stormwater Tank' on Berth 2.</u> Each time after an 11mm rainfall, the tank is emptied by the Cleaning Contractor (after contacting the SPE Environmental Manager		***Low***

2.6	**Empty water tank on Berth:** • If there is >11mm rainfall while a vessel is at Berth 2, the Cleaning Contractor will empty the water tank on Berth 2 if the water can be reused • If there is no use for the water, open the valve under berth 2 using a large adjustable spanner to open the valve (there is no handle attached to this valve).		***Low***
2.7	**Filter Back-Flushing:** The filter should be back-flushed fortnightly, when the filter is being used frequently, or as required. This operation is carried out by SPE Cleaning Contractor. • The lever at the top of the filter is lifted straight up and turned around to face the opposite direction (towards the tank, as shown in the photo. • Shut valve 4 • Put valve 3 in backflush position (handle towards operator)		***Low***

	• Connect pipe with two male camlock fittings as shown in bottom photo **Replacing the Filter Medium:** The filter medium (zeolite) should be replaced every twelve months. The zeolite is a SPE Stores item. The used (waste) zeolite can be disposed of by stockpiling on one of the concrete pads behind (south of) Shed 3. Before disposal, contact SPE Environment Team.		
	IMPORTANT NOTE: **The 'Environmental Checklist for Copper and Nickel (HPRM D19/4394) provides steps for stormwater valve setup and water collection during a nickel/copper vessel. This document can be accessed via HPRM or MyPort documents.** **The 'Cleanup Checklist for Fertiliser Inloading' (HPRM D16/976) provides steps for stormwater valve setup and water collection during a fertiliser vessel. This document can be accessed via HPRM or MyPort documents.**		

Step # 3	**COMPLETION / DISMANTLE / PACK UP**		Risk Level
3.1			
3.2			
3.3			

4.2 Variation(s) or other considerations to above (location, access, egress, others working nearby)

#	Steps	Hazards	Controls	Risk Level

4.3 Immediate Emergency Steps

#	Scenario	Controls	Risk Level

5. AUTHORISATION & SIGN ON

5.1 Acknowledgement

All personnel working under this SWI have read and understand this SWI and the additional hazards where identified.		
What will trigger us to stop the task? I/we will stop this task and contact our supervisor if any of the following occur:		
Examples: changes in weather, traffic, equipment issues, communication failure, unauthorised entry, working outside this SWI.	**Trigger 1:**	**Trigger 2:**

5.2 Authorisation

Supervisor Name:		**Supervisor Signature:**		**Date:**	

5.3 Daily Sign On

Date	Name	Signature	Date	Name	Signature

EMERGENCY AND FIRST AID INFORMATION					
What to do in an on the job EMERGENCY:	➢ Immediately raise the alarm ➢ Stop all machines or make safe ➢ Administer first aid if required	NEAREST First Aid kit		Site Emergency Number	**0428 712 111**
		NEAREST Defibrillator		Emergency Radio Channel	**Channel 1**
What to do in the event of an EVACUATION:	➢ Shut down power sources and make systems safe ➢ Proceed to nearest safe muster point. ➢ On arrival at muster point, swipe access card ➢ Report to the Muster Marshal ➢ Follow instructions from Muster Marshal	NEAREST Fire extinguisher		Shift Superintendent no.	0447 838 290
				Supervisor's Phone no.	
		NEAREST Muster Point	**1 2 3 4**	ALTERNATIVE Muster Point	**1 2 3 4**