Spill Response Procedure

Environment

Revision Register

REV	DATE	NAME	DESCRIPTION OF CHANGES
0	15/03/2023	Suzana Mitrevski	Final – Issued for Use

TABLE OF CONTENTS

TABLES

1 Purpose & Scope

Purpose: This procedure specifies the operational environmental requirements relating to the management of hydrocarbon, chemical, sewage or wastewater and brine spills on land and to waterways within HanRoy Projects.

Scope: This procedure applies to all personnel on all HanRoy Projects that respond to or manage spills.

2 Procedure

This procedure outlines the process for managing different types of spill. Generally, the process for responding to a spill needs to follow the steps below:

1. **CHECK** for any hazards to the responder or other personnel;
2. **CONTROL** the source of the spill;
3. **CONTAIN** the spread of the spill;
4. **CLEAN UP** the spill; and
5. **COMMUNICATE** the occurrence of the spill (regardless of size) as an incident in the HanRoy Incident Management System to ensure that an investigation is completed and corrective actions are assigned to prevent recurrence of the incident, as well as any learnings from the incident (e.g. via a toolbox talk, site notice or awareness poster). Some spills may require external reporting (Section 2.6).

Further details of steps 2-4 are provided in the sections below and in a summary table located in 7 Appendix 1: Summary Table of Spill Response.

2.1 Different Types of Material Spills

2.1.1 Hydrocarbon Materials

Use the following process to manage spills related to hydrocarbon materials which include, but are not limited to fuel, oils, greases, coolants and hydrocarbon-based degreasers and solvents:

1. **CHECK**
2. **CONTROL**
   - Follow the Safety Data Sheet (SDS) instructions for Personal Protective Equipment (PPE) and handling of hydrocarbon material;
   - Control the spill at source if safe to do so (for example turn off leaking valves, stand up overturned drums, isolate burst hydraulic hose); and
   - Remove all sources of heat and ignition.
3. **CONTAIN**
   - Contain the extent of the spill using absorbent material/socks around the perimeter of the spill using an oil and hydrocarbon spill kit; and
   - Prevent hydrocarbons from entering drains and waterways as a priority. If the drain or waterway is dry the spill should be treated as per a spill onto land. If there is water in the drain or creek line various methods can be used depending upon the exact circumstances of the spill. The drains or creek lines should be dammed or have booms placed in them to prevent the spread of contaminated liquid any further.

4. **CLEAN UP**
   - Use a vacuum truck to siphon free liquid (e.g. from within sump, drain or otherwise dry creek line) and transfer the waste hydrocarbons to the appropriate waste hydrocarbon tank for removal offsite. Spills must not be washed into drains;
   - Use spill kits mats, absorbent pillows and peat or similar material to absorb the residual surface liquids;
   - Use spill kits mats, absorbent pillows or similar material to absorb the residual surface contaminated liquid in a wet drain or creek line. Use spill matting, absorbent pillows or similar material until all visible contaminated liquid has been removed. In this case, verification testing must occur;
   - Place used and contaminated absorbent booms, pillows and matting into designated hydrocarbon waste bins for removal offsite;
   - Remove contaminated soil, appropriate store the contaminated material for disposal offsite; and
   - Undertake the removal of any contaminated waste from site in accordance with the *Environmental Protection (Controlled Waste) Regulations 2004.*
5. **COMMUNICATE**
   - Ensure all spills are reported in accordance with Section 2.6.

2.1.2 Chemical Spills

Use the following process to manage spills related to chemicals which include, but are not limited to solvents, cleaning products, paint and acids:

1. **CHECK**
2. **CONTROL**
   - Follow the SDS instructions for PPE and handling of the chemical;
   - Control the spill at source if safe to do so; and
   - Remove all sources of heat and ignition.
3. **CONTAIN**
   - Consult the SDS for containment requirements and potential neutralising agents;
   - Contain the extent of the spill using absorbent material/socks around the perimeter of the spill using an chemical spill kit; and
   - Prevent chemicals from entering drains and waterways as a priority. If the drain or waterway is dry the spill should be treated as per a spill onto land. If there is water in the drain or creek line various methods can be used depending upon the exact circumstances of the spill. The drains or creek lines should be dammed or have booms placed in them to prevent the spread of contaminated liquid any further.
4. **CLEAN UP**
   - Use spill kits mats, absorbent pillows and peat or similar material to absorb the residual surface liquids in accordance with the SDS including in drains or creek lines;
   - Check for appropriate disposal methods for chemical contaminated material in accordance with the SDS and dispose in accordance with this method; and
   - Remove contaminated waste from site in accordance with the Environmental Protection (Controlled Waste) Regulations 2004.
5. **COMMUNICATE**
   - Ensure all spills are reported in accordance with Section 2.6.

2.1.3 Wastewater or Sewage Spills

Ensure that all personnel dealing with a wastewater or sewage spill have current vaccinations for Hepatitis A and Hepatitis B. Use the following process to manage spills related to wastewater or sewage:

1. **CHECK**
2. **CONTROL**
   - Assess the spill and contact the appropriate Department in regard to the spill/cause and the area Supervisor. Give details if the fault is identified; and
   - Control the spill at the source if safe to do so (by immunised personnel only).
3. **CONTAIN**
   - Place delineation/cones around spill area extent and create bunds (use soil where appropriate) around drains and stop water flows off the site and into native/uncleared land or water bodies (if required) so that no wastewater leaves the impacted site;
   - Ensure the fault in the equipment is rectified as soon as possible; and
   - Prevent wastewater or sewage from entering drains and waterways as a priority. If the drain or waterway is dry the spill should be treated as per a spill onto land. If there is water in the drain or creek line various methods can be used depending upon the exact circumstances of the spill. The drains or creek lines should by dammed or have booms placed in them to prevent the spread of contaminated liquid any further.
4. **CLEAN UP**
   - Remove and dispose of any pooling water or solid contaminated material into the wastewater treatment plant or remove offsite using a licenced controlled waste contractor;
   - Use spill kit mats, absorbent pillows or similar material to absorb the residual surface contaminated liquid in a wet drain or creek line. Use spill matting, absorbent pillows or similar material until all visible contaminated liquid has been removed; and
   - Remove any contaminated materials from site as controlled waste (e.g. used spill kit material, wastewater or sewage contaminated waste) if not able to be treated appropriately, in accordance with the *Environmental Protection (Controlled Waste) Regulations 2004;*
   - Treat any exposed areas by applying calcium hypochlorite powder (or if no powder is available, a lime based alternative). Ensure gloves are worn applying lime.
5. **COMMUNICATE**
   - Ensure all spills are reported in accordance with Section 2.6.

2.1.4 Brine/Saline Water Spills

Use the following process to manage unplanned, uncontrolled brine or saline water spills.

Authorised discharges of reverse osmosis (RO) water or saline groundwater to sedimentation ponds or sumps are not considered to be spills.

1. **CHECK**
2. **CONTROL**
   - Control the spill at source if safe to do.
3. **CONTAIN**

- Test the spill for salinity (EC) if possible, using a handheld field pH/EC meter, to determine the appropriate response;
- Control the extent of the spill using earthen bunds; and
- Prevent brine or saline water from entering native vegetation, drains and wastewater as a priority.

4. **CLEAN UP**
   - Consult with the HanRoy Environment Team about the appropriate clean up method. This may include one or more of the following management techniques:
     - Flush the area with fresh water to dilute the salt;
     - Rip to allow infiltration; or
     - Add specific products or chemicals.
5. **COMMUNICATE**
   - Ensure all spills are reported in accordance with Section 2.6.

2.1.5 Sediment Laden Water Spills at Port Marine Infrastructure

Use the following process to manage sediment laden water spills at Port Marine Infrastructure:

1. **CHECK**
2. **CONTROL**
   - Investigate if the cause of the spill and control the spill at source if safe to do.
3. **CONTAIN**
   - Contain the extent of the spill using absorbent material/socks around the perimeter of the spill using a marine spill kit; and
   - Prevent sediment laden water entering drains and waterways as a priority.
4. **CLEAN UP**
   - Clean up and remove spills within 72 hours following identification;
   - Undertake regular clean-up using a street sweeper/sucker truck to remove spills and built up material at Port marine infrastructure; and
   - Wastewater recovered during clean-up activities may be discharged within the Port Loop sediment basins or offsite. All spill clean-up in the marine environment will be undertaken by Pilbara Port Authority (PPA).
5. **COMMUNICATE**
   - Ensure all spills are reported in accordance with Section 2.6.

2.2 Training & Awareness

- Familiarise all personnel associated with spill management activities with the requirements of this procedure.
- Include information on spill management requirements in site inductions or site communications where relevant.
- Conduct toolbox talks and develop environmental site notices and environmental awareness posters periodically highlighting spill management requirements. This is the responsibility of the Environment Representative, or appropriate HSE Representative.
- Display relevant environmental site notices and environmental awareness posters at prominent workplace locations (crib rooms).
- Update and maintain training records of personnel.
- Maintain records of toolbox training attendance onsite for audit and inspection purposes.
- Ensure all personnel complete Spill Response Training.
- Undertake spill response drills onsite.

2.3 Monitoring Actions

- Undertake monitoring in accordance with approval conditions and commitments and ensure that all data required for regulatory reporting is captured.
- Maintain monitoring records for auditing and inspections purposes.
- Ensure the following is undertaken – this is the responsibility of the Environment Representative or appropriate HSE Representative:
    - Undertake validation sampling and testing (including photographic evidence) for hydrocarbon or chemical spills;
    - Undertake monitoring of the affected area where necessary for spill events that are reported to a regulatory authority, with the methodology and frequency of monitoring to be s advised by the HanRoy Environment Department in liaison with the applicable government agencies; and
    - Ensure that the monitoring of spills to water within the Port Hedland harbour is coordinated with the PPA where required by them.

2.4 Incidents, Audit and Inspections

- Undertake regular inspections of the active work area against the requirements of this procedure.
- Maintain records of inspections.
- Undertake an investigation into the cause (s) of incidents reportable to regulators in accordance with the Incident Investigation Specification (HNR-0000-HS-SPC-0002) and develop actions to prevent recurrence.
- Enter corrective and preventative actions from incidents, audits and inspections into the HanRoy Incident Management System.

2.5 Contingency Actions

- Implement contingency actions in accordance with this procedure where deficiencies are identified during inspections, audits and incident reporting.
- Conduct a risk assessment to determine the most effective mitigation measures should additional contingency actions be required, and follow the change management process.

- Ensure any handling of fauna impacted by spilled hydrocarbons or chemicals is undertaken in accordance with the Environmental Compliance Standards (HNR-0000-EN-SPC-0001).
- Undertake validation sampling and testing, if the area is determined to be still contaminated, remove additional material then undertake further validation until the area is verified as not contaminated.

2.6 Reporting Requirements

2.6.1 Internal

- Report all non -compliances (including all sized spills) with this procedure, all regulatory exceedances and all community complaints as an incident in the HanRoy Incident Management System. Ensure incident details include:
  - Type of material spilt;
  - Volume of spill;
  - Date and time of spill;
  - How/why it the spill occurred;
  - Whether the spill entered waterways, water bodies or drains;
  - Photographs of the extent of the spill (if taken);
  - Results of any testing (if applicable);
  - The clean-up method used; and
  - Evidence of confirmed clean up.
- Close out all incidents and corrective actions in accordance with the Incident, Non-Conformance and Actions Management Procedure (HNR-0000-HS-PRO-0023).
- Record GDP location for spill events that are reported to a regulatory authority, where not all of the spill was recovered, or for all spills to water.
- Record GPS locations of unrecovered spills (to land) in the Contaminated Sites Register.

2.6.2 External

Spills may be reportable to government agencies depending on the type of spill, volume of sill, whether the spill has potential to cause pollution, or in situations where the spill enters a sensitive receptor, such as a waterway or the marine environment. Formal reporting to government agencies will only by undertaken by the HanRoy Environment Team.

2.6.2.1 Department of Water and Environmental Regulation

All reporting to the Department of Water and Environmental Regulation (DWER) should be undertaken in accordance with the Incident, Non-Conformance and Actions Management Procedure (HNR-0000-HS-PRO-0023) via a Section 72 notification. Formal reporting to DWER will only be undertaken by the HanRoy Environment team.

2.6.2.2 Pilbara Ports Authority

All spills/discharges to Port Hedland waters must be reported to the PPA. All formal reporting to the PPA should be undertaken in accordance with the Incident, Non-Conformance and Actions Management Procedure (HNR-0000-HS-PRO-0023) using the PPA online form:

http://www.pilbaraports.com.au/Home/Safety-and-security/Hazard-and-incident-reporting

Formal reporting to DWER will only be undertaken by the HanRoy Environment team.

HanRoy shall report all hydrocarbon spills (of any size) to water within Port Hedland harbour to PPA. Immediate verbal reporting to PPA shall be undertaken as soon as practicable to the Vessel Traffic Services Centre (VTSC) on VHF Channel 16 or 12 or via telephone on (08) 9173 9030. The on shift HanRoy Supervisor in charge shall notify the VTSC, and the following details shall be provided:

- Vessel name or facility;
- Location of spill;
- Estimated volume of spilled;
- Extent of slick and direction of travel;
- Type of material/hydrocarbon spilled;
- Has the discharged ceased;
- Any casualties on-board; and
- Resources being deployed and actions being taken to respond to the spill.

2.6.2.3 Department of Transport

HanRoy shall report all hydrocarbon spills (of any size) to water within Port Hedland harbour to the Department of Transport (DoT). The HanRoy Environment Department shall contact the DoT Maritime Environmental Emergency Response Unit on (08) 9480 9924 and complete a Pollution Report (POLREP) (http://www.transport.wa.gov.au/imarine/report-marine-oil-pollution.asp).

For spills from vessels, the Vessel Master is responsible for contacting DoT and completing the POLREP.

Formal reporting to PPA and DoT will be undertaken by the HanRoy Environment team. A copy of the POLREP is to be provided to PPA using the email address shipping@pilbaraports.com.au .

3 Accountabilities

Table 3-1 Accountabilities

Role	Responsibility
Contractor	The person(s) bound to carry out and complete works under contract.
Environment Team	Responsible for review and update of this procedure.

4 Abbreviations

Table 4-1 Abbreviations

Abbreviation	Definition
DWER	Department of Water & Environmental Regulation
DoT	Department of Transport
EC	Electrical Conductivity
HSE	Health, Safety & Environment Representative
POLREP	Pollution Report
PPA	Pilbara Port Authority
PPE	Personal Protective Equipment
RO	Reverse Osmosis
SDS	Safety Data Sheet
VTSC	Vessel Traffic Services Centre (at Pilbara Port Authority)

5 Definitions

Table 5-1 Definitions

Term	Definition
Brine	Brackish, saline or salty water with a saline of >0.05%
Brine or Saline Water Spills	A spill where Total Dissolved Solids concentrations is greater than 5,000 milligrams per litre.
Chemical	Any substance with a definite chemical composition.
Hydrocarbon	An organic compound consisting of hydrogen and carbon.
Sewage/Wastewater	Any kind of sewage, nightsoil, faecal matter or urine or waste composed wholly or part of liquid.
Spill	An uncontrolled release of a material (solid, liquid and gas) that causes contamination.

6 References

Table 6-1 References

Document number	Title
	Environmental Protection (Controlled Waste) Regulations 2004
AMSA,2014	Australian Maritime Safety Authority (2014) National Plan for Maritime Environmental Emergencies. Australian Maritime Safety Authority, Australian Government, Canberra; www.amsa.gov.au
DoT, 2010	Department of Transport (2010), State Emergency Management Plan for Marine Oil Pollution, WestPlan-MOP. Department of Transport, Government of Western Australia, Fremantle. June 2010.
HNR-0000-HS-PRO-0023	Incident, Non-conformance and Action Management
HNR-0000-HS-SPC-0002	Incident Investigation Specification
HNR-0000-EN-PLN-XXXX	Terrestrial Fauna Management Plan
PPA, 2015	Pilbara Ports Authority (2015), *Marine Pollution Contingency Plan Port of Port Hedland.* Pilbara Ports Authority, Port Hedland. Available online: http://www.pilbaraports.com.au/PilbaraPortsAuthrotiy/media/Documents/PORT%20HEDLAND/Safety%20and%20Security/Port-of-Port-Hedland-Marine-Pollution-Contingency-Plan.pdf

7 Appendix 1: Summary Table of Spill Response

Table 7-1 Summary Table of Spill Response

Substance	Description and Impact	Control	Contain	Clean up
Hydrocarbons (Fuels, Oils, Greases, Coolants and Hydrocarbon based Degreasers and Solvents)	Mineral oils biodegrade slowly and should not be released into waterways or soil. They can float on water, restricting oxygen exchange with possible asphyxiation of aquatic life. Some products contain toxic components with the potential to bioaccumulate. Products behave differently in the environment depending on their composition. They may volatise rapidly in water (bioaccumulation should not be significant) or very slowly. Groundwater contamination may occur as spills may penetrate soil.	Follow the SDS instructions for PPE and handling the hydrocarbon material. Control the spill at source if safe to do so (for example turn off leaking valves, stand up overturned drum, isolate burst hydraulic hose). Remove all sources of heat and ignition.	Contain the extent of the spill using absorbent material/socks around the perimeter of the spill using an oil and hydrocarbon spill kit. Prevent hydrocarbons from entering drains and waterways as a priority. If hydrocarbons do enter the drains or creek lines then these should be dammed or have booms placed in them to minimise the spread of the hydrocarbons, where possible.	Use a vacuum truck to siphon free liquid (for example within a sump) and transfer the waste hydrocarbons to the appropriate waste hydrocarbon tank for removal offsite. Spills must not be washed into drains. Use spill kit mats, absorbent pillows and peat or similar material to absorb the residual surface liquids. Place used and contaminated absorbent booms, pillows and matting into designated hydrocarbon waste bins for removal offsite. Remove contaminated soil and place in the appropriate hydrocarbon waste bins (rail and port). All contaminated waste shall be removed and taken offsite in accordance with the Environmental Protection (Controlled Waste) Regulations 2004.
Chemicals (solvents, cleaning products, paint and acids)	Chemicals can have different properties when released to soil. Significant amounts can remain for transport to water bodies or groundwater. If released into waterways some chemicals have the potential to kill flora and fauna.	Follow the SDS instructions for PPE and handling for the chemical. Control the spill at source if safe to do so. Remove all sources of heat and ignition.	Consult the SDS for any containment requirements or any potential neutralising agents. Contain the extent of the spill using absorbent material/socks around the perimeter of the spill using a chemical spill kit. Prevent chemicals from entering drains and waterways as a priority. If chemicals do enter the drains or creek lines then these should be dammed or have booms placed in them to minimise the spread of the chemicals, where possible.	Use spill kit mats, absorbent pillows and peat or similar material to absorb the residual surface liquids. Check for appropriate disposal method for chemical contaminated material in accordance with the SDS and dispose in accordance with this method.
Wastewater (Sewage)	Wastewater consists of 99% water. Micro-organisms (including human pathogens such as bacteria, protozoa and viruses), and organic and inorganic substances including nutrients make up the remainder. Untreated wastewater may carry infectious diseases including Hepatitis A and Hepatitis B. Heavy metals and toxic organic and inorganic substances can also pose serious threats to human health and the environment. If untreated wastewater enters waterways or leaches into the groundwater, nitrates may build up causing eutrophication leading to harmful algal blooms and the production of toxins by these organisms.	Assess the spill and contact the appropriate Department in regards to the spill/cause and the area supervisor. Give details if the fault is identified. Control the spill at source if safe to do so (by immunised personnel only).	Place delineation/cones around spill area extent and create bunds (use soil where appropriate) around drains and stop water flows off the site and into native/uncleared land or water bodies (if required) so that no wastewater leaves the impacted site. Ensure the fault in the equipment is rectified as soon as possible. Prevent wastewater or sewage from entering drains and waterways as a priority.	Remove and dispose of any pooling water or solid contaminated material into the wastewater treatment plant or remove offsite using a licenced controlled waste contractor. Remove any wastewater contaminated materials, if not able to be treated appropriately, onsite as controlled waste (for example wastewater or sewage contaminated waste) in accordance with the Environmental Protection (Controlled Waste) Regulations 2004. Treat any exposed areas applying calcium hydrochlorite powder (or if no powder is available, a lime based alternative).
Brine/Saline Water	Brine or saline water can impact on native vegetation and affect the quality of freshwater systems.	Control the spill at source if safe to do so).	Test the spill water for salinity (EC) to determine the appropriate response if possible. Control the extent of the spill using earthen bunds. Prevent brine or saline water from entering drains and waterways as a priority.	Consult with the HanRoy Environment Team about the appropriate clean up method. This may include one or more of the following management techniques; • Flushing the area with fresh water to dilute the salt and drain the salt over larger area with less concentration; • Ripping to allow infiltration; or • Addition of specific products or chemicals.
Sediment Laden Water at Port Marine Infrastructure	Sediment laden water can impact on native fauna and flora (Mangrove) and affect the quality of marine systems.	Control the spill at source if safe to do so).	Contain the extent of the spill using absorbent material/socks around the perimeter of the spill using a marine spill kit; and Prevent sediment laden water entering drains and waterways as a priority.	Clean up and remove spills within 72 hours following identification. Undertake regular clean-up using a street sweeper/sucker truck to remove spills and built up material at Port marine infrastructure. Wastewater recovered during clean-up activities may be discharged within the Port Loop sediment basins or offsite. All spill clean-up in the marine environment will be undertaken by Pilbara Port Authority (PPA).