ZERO HARM

Fortescue River Gas Pipeline
Oil Spill Contingency Plan

Rev #	Date	Prepared By	Reviewed By	Approved By	Description
0	17/09/2019	Senior HSE Advisor		Senior HSE Advisor	Initial Submission
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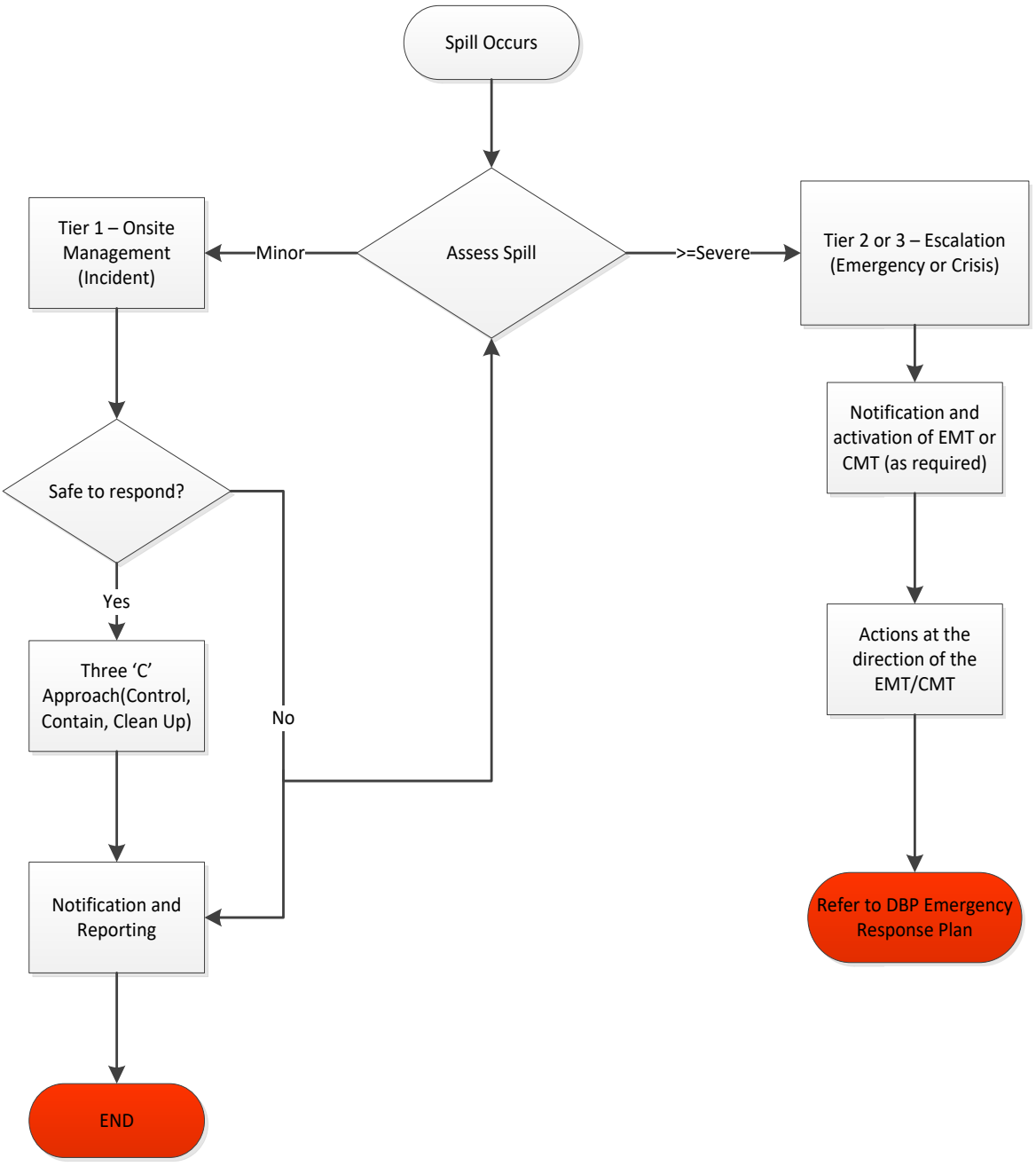
Spill Response – Immediate Response Process



1. PURPOSE

The purpose of the Fortescue River Gas Pipeline (FRGP) Oil Spill Contingency Plan (OSCP) is to establish the roles, responsibilities and procedure required to be implemented in the event of a significant oil spill to the environment during operational activities along the FRGP.

2. BACKGROUND

DDG Operations is the nominated operator of the FRGP and associated meter station, line valve and interconnect facilities as detailed in **Table 1** below

Table 1 Infrastructure of the FRGP System

Facility	Pipeline/ Infrastructure	Description	License
Fortescue River Gas Pipeline Project	Fortescue River Gas Pipeline	16" x 270km long underground natural gas pipeline connecting the DBNGP at CS1 via an inlet station (Fortescue Launcher Facility) and delivers gas to the Solomon Power Station.	PL105

3. SCOPE

The scope of this procedure applies to all significant oil spills that impact the environment and occur during operation of FRGP. A significant oil spill includes any loss of containment event in which greater than 500 L of oil is released (or 80 L if surface water is the receiving medium).

This procedure should be read in conjunction with the following key documents:

- FRGP Environment Plan (E-PLN-012);
- FRGP Safety Case (FGP-5512-0502-01);
- FRGP Asset Management Plan (DDG-PL105-Z-PLN-001-01);
- DBP Maintenance Plan (TEB-001-0026-01); and
- DBP Emergency Response Plan (TEB-003-0021-01); and
- DBP Hazardous Materials Storage and Handling Procedure (S-PRO-016).

4. RISK CHARACTERISATION

Key sources and locations of bulk fuel storage and handling are discussed in **Table 2** to identify the maximum credible spill scenario for each source.

It is noted that acknowledging the low relative risk associated with storage of minor volumes in locations with no proximity to any permanent surface water body, detailed oil spill modelling was not deemed warranted and has not been undertaken.

Table 2 Key sources and locations of bulk oil storage and handling

Source	Incident	Location	Fuel	Volume
Project Diesel tank, refuelling trailer	Spill during refuelling or in transit to work site.	No permanent onsite storage – only temporary for specific works which are not expected.	Diesel	500L
Minor fuel volumes	Spill	Jerry can (transportable), small generator	Diesel	20L

Due to the minor volume of fuel onsite, this plan also considers the spill of diesel during an outage operation that may require additional fuel tanks. This includes the potential spills during refuelling or a potential traffic accident in transit.

Likelihood of a rollover is remote and dependant on the location this can range from a minor consequence through to severe. As such the risk is classed as Low under the DDG Risk Matrix.

Additional third-party equipment, including SES and Fire Services would assist in any accident during transport. Local waste contractors would also be used to assist in the clean-up and disposal process.

An onsite spill would be of a minor volume and captured with spill kits and removal of contaminated soil.

5. EQUIPMENT

All mobile refuelling trucks/tanks and hydraulic plant will be operated with spill response equipment available for use at all times. The spill kit shall be appropriate for the effective management and clean-up of the likely material type and reasonably likely volume spilled.

At a minimum (for bulk fuel use) this shall include:

- 12 (8 cm x 3 M) Absorbent Socks;
- 180 (40 x 50 cm) Absorbent Pads;
- 4 (30 x 35 cm) Absorbent Cushions;
- 5 Disposal Sacks and Ties;
- Minor PPE including chemical gloves; and
- Access to a shovel (either with spill kit or onsite).

Each spill kit shall have a dedicated Spill Kit Component List to detail the minimum equipment requirements within that kit. The spill kit shall also have basic instruction on the use of the spill equipment included.

Spill response equipment shall be stored within dedicated, labelled and mobile containers. Signage shall be installed to indicate the location of spill response equipment.

For FRGP, no spill kits are kept onsite permanently due to no hydrocarbon storage onsite. As per above temporary spill kits will be in place when larger amounts of hydrocarbons are introduced.

DDG personnel shall have minor spill equipment in their vehicles to assist with minor spills.

There is additional mechanical equipment (graders, dozers) available either through the mine site (FMG) or local landholders. These may be mobilised if a large spill occurs but that kind of volume is not expected to occur onsite.

6. TRAINING

All personnel shall be made aware of the requirements of this OSCP through awareness training and induction to the project.

Personnel shall, at a minimum, be trained in the use of the PPE that is supplied with the spill kits to ensure knowledge of and effective use. Personnel shall undergo additional training as per role requirements. This may include dangerous goods handling or further developed incident response training.

Drills shall be held on the OSCP to ensure that this process is tested and to build awareness of the process during the project. The procedure shall be tested at a minimum once annually, in conjunction with other comparable OSCP's.

The FRGP sites are unmanned sites. Personnel attending for work shall be trained in emergency response requirements including the requirements of this OSCP.

7. SAFETY

Personal safety must be continually assessed whilst undertaking any actions of spill response. Although prompt response is an important part of reducing potential contamination – personal safety is always the primary consideration.

In the event of a spill, the spilled material must be identified through consultation with the MSDS to assess the spill site for potential risks to personnel (either aware or unaware of the spill). These may include:

- Fire and explosion: *Identify and control any potential sources of ignition*;
- Inhalation of fumes: *Try to enter the area from upwind and consider/beware of areas with limited ventilation*;
- Skin irritation due to direct contact with the spilled material: *Source the correct PPE to prevent exposure to eyes and skin*; and
- Slips and trips due to altered surface conditions.

Exclusion zones must be established and additional support requested to manage safety risks where necessary. Once the area has been deemed to be safe, the source of the spill must be controlled (turned off/closed/etc. if applicable), and the spread of the spill contained to prevent extensive contamination. Clean-up activities should only commence once control and containment measures are implemented and effective.

The situation must be continually monitored until resolved. Project risk management processes (e.g. Take 5 and JHA) should be used to address any new risks as they are identified.

8. SPILL CLASSIFICATION

Key parameters that determine spill classification include volume (actual spill and maximum possible spill), substance (i.e. diesel) and receiving environment (sealed, unsealed, surface water). All assessment assumptions must be qualified.

The location of the spill should be clearly understood, including distance to the closest Environmentally Sensitive Area.

9. COMUNICATION AND COORDINATION

Once a significant spill is identified, it should be immediately reported in accordance with the Emergency Response Plan. Initial spill classification information should be communicated with any assumptions qualified for further follow up as required. It is noted that a significant spill is unlikely to occur on the FRGP.

All Significant Incidents are to be reported immediately to the DDG Licensee's Representative, who will report to the Executive General Manager Transmission Asset Management (GM TAM) and if not available DBP Transportation Services Control Centre.

The EGM TAM shall ensure all significant spills are communicated to the DMIRS verbally as soon as practicable and within 2 hrs of identification via the DMIRS reporting email petroleum.environment@dmirs.wa.gov.au.

All other key stakeholders (e.g. landowners, FMG) should be identified and notified as soon as practicable dependent upon the location and scale of the spill.

10. PROCEDURE

a. Control

Identify the source of the spill. If safe to do so, control the spill directly at the source to stop further ongoing release of the material. Appropriate spill control measures shall vary on a case by case basis (dependent upon the source) but may involve closing a valve, isolating a pump or temporarily plugging the point of rupture.

b. Contain

Spill containment should be undertaken to surround the spill and prevent further migration. Additionally, containment barriers should be established around areas of environmental significance such as drains or waterways to provide a second layer of protection.

For spills on hard stand areas, use absorbent booms to encapsulate the spill, ensuring that boom joins are overlapping to create a continuous barricade. Cable ties may be used where necessary to fix joins in place. Alternatively, establish an earthen bund around the spill to mitigate lateral migration.

Truck rollovers may require external assistance, dependant on location or earthmoving equipment shall be required for larger containment controls such as earth bunds and to protect waterways.

c. *Clean Up*

Once spilled material has been contained and the threat of environmental harm minimised, the contaminated material shall be removed for secure storage and offsite disposal by a licenced contractor. Recovery methods of free liquid may include:

- Absorbent pads to soak up large pools of spilled material on hardstand areas and surface layers on ponded material.
- Pumps installed at the low point in any spill containment area
- Mixing with particulate (such as Global Peat) to absorb residual liquid

Collection of contaminated material shall be within dedicated impermeable containers such as storage drums or hydrocarbon waste bins.

If storage tanks on site lose containment capability or a large spill occurs, then the same three 'C' process would be utilised just on a larger scale and with escalation as required in terms of the Tier Level of the Spill.

A licenced waste contractor with a vacuum truck to excavate all contaminated material may be required. Additional equipment shall be used by the site Incident Controller to control and contain the spill. This includes earthmoving equipment (for earthen bunds) and licensed waste controllers. All contaminated soils shall be removed to prevent further contamination or movement through soil.

All residual soils shall be sampled and analysed for total residual hydrocarbons to validate the retention of uncontaminated material only. If a substance other than hydrocarbons is known to have been involved in the spill, sampling range shall increase to ensure additional parameters are analysed and tested for.

All contaminated material shall be disposed of by a licenced contractor. If soil is contaminated with a chemical other than hydrocarbons this shall be managed with the licensed contractor to ensure that it is disposed of at a licensed waste facility able to receive the contaminated material. All waste generated from the clean-up activities shall be required to be removed from site to a licensed waste facility. In this situation this would most likely be to Karratha.

Dependent upon the scale or duration of the clean-up effort, temporary fencing should be considered to prevent public and wildlife inadvertently accessing the area and becoming exposed to health risks.

d. *Termination of response*

The Management team responsible the spill scenario (incident, emergency or crisis as set out in Section 13) shall determine when the spill response activities shall be stood down. This includes when full containment and immediate clean-up activities have been completed and on advice from any regulatory or incident management bodies (i.e., DFES, DWER).

This shall include the clean-up and demobilisation of any equipment, waste management as required based on consultation with a licensed waste contractor and evidence collection for any investigation. The EGM TAM shall be responsible for ensuring communication of requirements to site personnel and incident management onsite completes the required tasks and the relevant management team.

The EGM TAM shall also commence determination of any long-term activities that may be required including monitoring, repairs and any long-term remediation required. These shall be included as actions in the incident investigation report and communicated to DMIRS.

11. OFFSITE RESPONSE

In the event of a spill during road transport or offsite during transit, DDG would work with the Transport Contractor in terms of containment and recovery of material in a rollover scenario.

Minor spills would be able to be managed by the operator but larger spills that require greater response are included below.

In response to a rollover this would include engaging emergency services such as DFES and SES to assist with containment and additional transport requirements would be mobilised to assist with the containment and recovery of any materials. This would include equipment such as sucker / vacuum trucks, additional storage trucks, waste disposal trucks (licensed and approved) and other equipment as required.

Containment of a spill would be down to the incident controller (third party if offsite or emergency services involved). However, identification of environmentally sensitive receptors and protection of these areas would be of early consideration and priority of protection.

If additional concerns or equipment is required e.g. earthmoving equipment, this could be mobilised from site or through the civils contractor/local landholder depending on location.

12. ENVIRONMENTAL IMPACT

The main environmental impact from a spill of diesel is soil contamination.

Due to the location and minor quantities involved there is deemed no requirement for management of oiled wildlife. This is based on distance from sensitive receptors and likelihood of interaction with fauna being very remote.

The majority of works take place within the FRGP compounds or meter station which has either blue metal cover or additional compacted fill (>300mm) and as such any impact to groundwater is highly remote. Taking into account the negligible risk of offsite impacts and the distance from sensitive receptors no further assessment of the local environment was deemed to be required.

Potential pathways to surface include through spills during refuelling or a failure of the secondary liner of the tank.

Hydrogeology along the western section of the FRGP corridor comprises surficial sediments and shallow aquifers, fractured and weathered rock aquifers and rocks of low permeability. The eastern section of the FRGP corridor, in the Fortescue Valley, passes through differentiated, sedimentary rocks in fractured and weathered aquifers, and surficial sedimentary shallow aquifers. Groundwater is not expected to be impacted based on volumes, depth and local topography. As a portion of the central to eastern part of the pipeline is a public drinking water sources area (PDWSA) all travel in this area will be kept to main roads to minimise risk.

All spills at known volumes would be localised and no flow outside of the compound would be expected. Area within the compound is compacted earth that greatly minimises any movement of contaminants through the soil. Access tracks to FRGP are all highly compacted and all contaminated soil would be removed before entering the groundwater system.

Other sensitive receptors along or adjacent to the pipeline route include the Robe and Fortescue Rivers, Millstream Chichester National Park, Millstream Water Reserve and Karijini National Park. Some cultural heritage areas are also located adjacent to the route. With the minimal risk and volumes identified these are not considered at risk. These areas are part of the normal transport routes and covered under the requirements of the Dangerous Goods Code.

13. ESCALATION

In linking with the Emergency Response Plan (ERP), spill volumes, potential impacts and environmental sensitive receptors all play a part in terms of escalation.

A spill can be escalated at any stage by the PLR or site Incident Controller that would look at activation of the Emergency Response Plan and required notifications.

Escalation would be dependant against specific levels of response.

Level 1 Emergency (Tier 1)

A Level 1 Emergency as an incident or event which occurs at a site or in relation to campaign operations and is controlled and managed at the wellsite. This may include incidents which do not result in an emergency situation arising.

For Level 1 Emergencies a detailed incident report will be generated and where appropriate an incident investigation team will conduct a detailed investigation. The requirement for investigation is determined by the severity of the incident or event.

Level 2 Emergency (Tier 2)

A Level 2 Emergency is an event which has occurred at site or in relation to campaign operations and may require external assistance to manage, control or contain. Response to a Level 2 Emergency will be coordinated by the DDG Emergency Management Team and on completion of the response a detailed investigation will be undertaken.

Level 3 Emergency (Tier 3)

A Level 3 Emergency is an event which has occurred at site which has the potential to escalate to a point of serious impact to DDG business continuity. Response to an emergency which escalates to Level 3 or has the potential to do so will be coordinated by the DDG Crisis Management Team.

While the risk on site is minimal, response priorities include the prevention of contaminants entering the groundwater system or into surface water drainage. Dependant on the location of the spills this would be first targets for response teams for removal of contaminated soil and containment before entering any surface drainage system. All others would be offsite responses under the Australian Dangerous Goods Code.

14. REVIEW

Implementation of this plan shall be tested at a minimum, once annually. Such testing shall include the execution of drills to ensure adequacy, applicability and capability to respond to the likely maximum spill scenario. This testing may be conducted in conjunction with other comparable oil spill contingency plans (i.e. other AGIG assets in WA) as personnel work across different locations.

This document shall be updated to reflect any necessary corrections identified through such testing and review. This document shall also be reviewed and submitted to DMIRS at least 14 days prior to the end of the 2.5 years from date of issue.

15. RESPONSIBILITIES

DDG shall be responsible for all costs related to clean up and rehabilitation for oil spills associated with the FRGP operations. The roles and responsibilities in the event of a significant oil spills is detailed in **Table 3**.

Table 3 Roles and Responsibilities

Role	Responsibilities
Emergency Response Co-ordinator / Incident Controller	• Coordinate response efforts in the event of a significant oils spills.
DDG Licensee's Representative or Site Coordinator	• Support the enactment of the Emergency Response Plan in the provision of resources to respond to significant oils spills as necessary; • Ensure implementation and adherence to DDG Emergency Response protocols as required; • Notify the DBP Executive General Manager Transmission Asset Management; and • Complete housekeeping inspections (odorant response kits, spill kits, fire extinguishers).
Executive General Manager Transmission Asset Management	• Ensure regulatory notification as required; and • Ensure regulatory update of OSCP (at least every 2.5 years).
All personnel	• Aware of requirements and control under the OSCP; • Aware of notification and escalation requirements under the OSCP; and • Relevant personnel trained in 'Working with Odorant' or an equivalent course to manage odorant releases.

16. CONTACT DIRECTORY

All the relevant contacts are listed in **Table 4**.

Table 4 Contact details

Notification	Whom	Contact Details
DBP Gas Control	TSCC / Gas Control	1800 019 919 (Emergency number)
DMIRS	Petroleum Division / Environment	petroleum.environment@dmirs.wa.gov.au 9222 3727 (office hours)
DWER	Pollution Hotline	DWER Pollution Hotline 1300 784 782
DWER	Millstream Rangers	9182 2000
Local Council	Shire of Ashburton	9184 6001 After hours 0408 086 789
DFES	Volunteer Emergency Service	000 in emergency
SES	Emergency number	132 500 in emergency
Police	Emergency number	000 in emergency
FMG	Power Station Number – Duty Station Supervisor	0428 243 125 Tetra Ch 234
Airport	FMG (Solomon Aerodrome)	Via FMG Security
Airport	Karratha Airport	9186 8507
Waste Contactors	North West Waste Alliance Toxfree Cleanaway	132 955 9143 9500 9185 6111
Local Landholder with Civil equipment	Coolowanyah Station	As per Land Management Office (not for public)