ACCIDENT MANAGEMENT PLAN

Fixed Soil Treatment Facility, Wheal Jane

DOCUMENT CONTROL SHEET

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1. Introduction

This Accident Management Plan has been produced in accordance with EA Guidance Document 'How to comply with your Environmental Permit (EPR 1.00)'.

It is stipulated under this guidance document that the Accident Management Plan fulfils the following four key requirements:

- Identifies events or failures that could damage the environment;
- Assesses how likely they are to happen and the potential environmental consequences;
- Actions to minimise the potential causes and consequences of accidents; and
- The actions that are required to be carried out if an accident happens.

This Accident Management Plan has been implemented and maintained at the site as part of the company's Environmental Management System and will ensure the site and all operatives within are fully prepared for such incidents.

The Accident Management Plan and all associated procedures will be reviewed at least every four years or as soon as practicable after an incident, with changes made accordingly to minimise the risk of occurrence / recurrence.

All of the necessary actions that are required to be taken in the event of an accident will be detailed within the detailed Site Emergency Procedures.

2. Risk Magnitude Estimations

The Accident Management Plan (Table 2.2 overleaf) has adopted a risk assessment approach to each potential hazard by combining the probability and magnitude of the potential risk to give an estimation of the risk prior to any mitigation measures. The risk management measures, which are designed to reduce the likelihood of occurrence, are then detailed followed by an estimation of the actual risk post-mitigation (Residual Risk Rating).

The DEFRA guide to risk assessment indicates the approach of subjectively classifying the magnitude of potential consequences into four categories depending upon the degree of the impact that the potential risk could have and the context in which the risk is being assessed. The classification is used as a guide in this Risk Assessment.

The four categories are as follows:

- Severe: Possible irreparable damage to environmental resources;
- Moderate: Possible damage to environmental resources which are limited within a regional context;
- Mild: Possible effects might be transient damage to environmental resources which are commonplace on a regional basis and alternative sources are readily available;
- Negligible: The effects are negligible or might cause very slight temporary deterioration in the current environmental resource quality.

The matrix shown below considers the probability of the potential risk against the magnitude of the potential impact, thereby giving an estimation of the resulting likelihood of the risk occurring.

Table 2.1 Risk Estimation Matrix

Probability of Potential Risk	Magnitude of Potential Impact			
	Severe	Moderate	Mild	Negligible
High	High	High	Medium/Low	Near Zero
Medium	High	Medium	Low	Near Zero
Low	Medium	Medium	Low	Near Zero
Negligible	Medium	Medium/Low	Low	Near Zero

The qualitative risk assessment for the Accident Management Plan has been based on the matrix outlined above.

The final stage of the risk assessment is the judgement of the severity of the residual risk following implementation of the mitigation measures.

Table 2.2 Accident Management Plan

Accident Scenario	Probability of Accident Occurring	Magnitude of Potential Impact	Risk Rating before mitigation	Risk Management	Residual Risk Rating (following Mitigation)
1 - Spills and Leaks / Loss of Containment / Transfer of Substances / Overfilling of Vessels	Medium	Moderate to Severe Spillage and leakage could occur during fuel deliveries, vehicle refuelling, vehicle breakdowns/ accidents and or damage to tanks or bunds; Loss of containment could result in potentially polluting liquids (including oils) being discharged in surface water drainage systems and to controlled waters;	Low	• The treatment area is entirely sealed hardstanding with fully contained and sealed drainage and therefore considered to have a low potential for impacts to ground water. • The water will drain to the main central channel and through the water treatment system. This will be tested regularly (at least monthly) and ensured safe for discharge to the tailings dam. • The site will be bunded to ensure no unexpected drainage issues are encountered. • A sealed drainage and containment system for storage vessels containing potentially polluting liquids has been constructed so that any leaks / spills are contained. • All contaminated soil delivery areas are contained within a sealed drainage and containment system that incorporates appropriate falls and drains. • All storage vessels have been constructed to the appropriate British Standard. • Tanks are inspected visually on a daily basis by site staff to ensure continued integrity of tanks and identify any necessary remedial action. • Minor spills to be cleaned up immediately, using sand or proprietary absorbent. Resultant materials to be placed in container for off-site disposal to appropriate facility, if necessary. • Immediate action to be taken in event of major spill which is likely to cause polluting emissions to the environment to prevent liquid from entering surface water drains or any adjacent unsurfaced ground. Spillage to be cleared	Low

				immediately and placed in containers for offsite disposal. EA to be informed. • The company has established accident and emergency procedures.	
2 - Vandalism	Medium	Moderate The site could be subject to intentional vandalism and damage by intruders/ trespassers who could cause damage or harm to the plant and equipment, spills and leaks to tanks.	Medium	• On-site security measures. • Security lighting (on haul road to site) 24 hours a day. • Security cameras are installed at key areas of the Wheal Jane site. • Security fencing extends around the site perimeter. • Lockable gates are located at the Wheal Jane site entrance. • Gates will be locked whenever the site is closed. • Gates and fencing are inspected daily by operations staff to identify deterioration and damage and the need for repair. • Fencing and gates are maintained and repaired to ensure their continued integrity. If damage is sustained, repair will be made within the same working day. If this is not possible, suitable measures will be taken to prevent unauthorised access to the site and permanent repairs will be affected as soon as is practicable. • All visitors to the site are required to register in the visitor's book and sign out again on exit, thereby minimising the risk of unauthorised visitors on the site. • Operational procedures have been implemented including regular inspections, ensuring continual monitoring of security provision at the site.	Low
3 - Flooding	Low: The site lies within Flood Zone 1 (low risk).	Moderate	Medium	• The site is equipped with a sealed drainage and bunding systems which will prevent the inflow of offsite flood water into critical areas (bunds, tanks, storage etc.).	Low
4 – Fire; Plant malfunction;	Medium	Severe	Medium	• All mobile plant is subject to a planned preventative maintenance schedule and daily checks. • All mobile plant has been specified to be intrinsically safe and earthed in accordance to best practice.	Low

Electrical equipment that could provide an ignition source; Waste products / raw materials that may support combustion.				• All aspects of the plant are constructed of non combustible materials. • Containment system: all tanks and vessels containing flammable and potentially polluting liquids are constructed so that any leaks / spillages are contained and responded to in accordance with established emergency procedures. • Separation of combustible materials from the source prior to processing: – All waste is stored within the relevant stockpiles; and – Any flammable process consumables shall be stored in bunded tanks. • In the event of a fire, the following actions will be taken: – The fire brigade will be notified immediately and the EA as soon as practicable; and – The site will be immediately evacuated. • Records of fire incidences will be kept on site together with a summary of remedial action taken. • The EA will be advised of all incidents of fire as soon as is practicable. • Smoking will not be permitted in the operational area of the site. • Fire control systems have been installed. • Onsite security outside of work hours (nights and weekend). • All electrical equipment PAT tested.	
5 - Incompatible Feedstock / Unwanted Reactions: Some of the raw materials and waste inputs at the site could contain impurities that impede / prevent the recycling process.	Low	Moderate / Severe	Low	The following methods will be implemented to ensure that incompatible feedstocks do not compromise the safe operation of the plant: • All waste accepted onto site will have been subject to 'pre-acceptance' in accordance with the sites waste acceptance procedures; • All incoming waste is inspected in accordance with the sites waste acceptance procedures; and • Any non-conforming waste will be removed prior to acceptance in accordance with the sites waste rejection procedures.	Low

				Records of incidents involving incompatible compatible will be kept on site together with a summary of the remedial action taken.	
6 - Failure of Mains Services: Any short circuit and/or failure of electrical supplies affecting site equipment, computers, welfare and general equipment.	Medium	Low	Low	In the event of an electrical failure and / or short circuit the site has a dedicated Emergency Plan procedure (EP009 – Electrical Short Circuit / Failure) which will be followed.	Negligible
7 - Operator Error / Failure of Equipment. The unexpected breakdown of any part of the plant could result in short term build up of waste in the reception area or the incomplete processing of waste. The result of operator error could result in the plant not functioning efficiently.	Medium	Low	Low	• The waste will only be stored on site for a maximum of 30 days prior to treatment. • Should the above storage capacity be exceeded, incoming waste will be diverted off site. • All equipment is subject to a Planned and Preventative Maintenance Programme (PPM), to minimise unplanned failures.	Negligible

3. Summary and Conclusions

This document has been prepared to meet the requirements pertaining to Accident Management Plans within the Environment Agency guidance document EPR1.00 'How to Comply with your Permit'.

It is concluded that despite the Installation having the potential for a low-moderate environmental impact to the environment, the mitigation measures incorporated into the design of the plant and the site infrastructure are sufficient to mitigate the risks.

The company will operate using a suite of procedures for the control and management of all materials and plant in use at the facility.

These procedures will detail the required actions to be taken in the event of an emergency and should be used in the first instance for any accident and emergency at site.