ACCIDENT MANAGEMENT PLAN

DOC REF: MK-E09

Mekatek Ltd
Maerdy Industrial Estate

Prepared by:
Sol Environment Ltd

Date:
Septemeber 2017

Project or Issue Number:
SOL1707MK01

Sol Environment Ltd | Malvern | Bristol | Edinburgh
enquiries@sol-environment.co.uk | t. +44(0)1684 572727 (Switchboard) | +44(0)117 9372811 (Bristol)

VERSION CONTROL RECORD			
Contract/Proposal Number:		SOL1707MK01	
Authors Name:		Emily Hingston	
Signature:			
Issue	Description of Status	Date	Reviewer Initials
1	First Submission to NRW	September 2017	SMB

CONTENTS

		Page
1	INTRODUCTION	1
2	RISK MAGNITUDE ESTIMATIONS	3
3	SUMMARY & CONCLUSION	8

1 INTRODUCTION

This document has been prepared by Sol Environment Ltd on the behalf of Mekatek Ltd (hereafter referred to as "the applicant") in support of a permit application for the proposed operation of a Waste Recovery and Recycling Facility at their site in Rhymney, Wales.

This document represents the Accident Management Plan (AMP) submitted as part of the Application package to Natural Resources Wales (NRW) (Sol Environment Ref. SOL1707MK01).

The proposed development is located at Unit C, Maerdy Industrial Estate, Rhymney, NP22 5PY (National Grid Reference: SO 11588 06808.

The waste recovery and recycling facility has been designed to predominantly process waste electrical and electronic equipment (WEEE), selected source segregated packaging materials, plastics and metals. The site will accept 30,999 tonnes per annum and include the receipt, storage, segregation and mechanical processing into various grades of granular metals and plastics for sale as recovered product.

The waste recovery and recycling facility will be permitted by the Natural Resources Wales as a Waste Operation and will be operated in accordance with the EPR Regulations 2016.

This Accident Management Plan has been produced in accordance with NRW guidance Document *'How to comply with your Environmental Permit'*.

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 will be 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.

A number of the control measures cited within this document refer the operators proposed suite of Environmental Procedures which have been drafted in response to the proposed operations at the site (MK-E01 to MK-E11).

These documents should be referred to for detailed actions in relation to emergency response and control.

- MK-E01 – Waste Pre-Acceptance;
- MK-E02 – Waste Acceptance;

- MK-E03 – Waste Rejection;
- MK-E04 – Off Site Waste Transfers;
- MK-E05 – Waste Reception and Storage;
- MK-E06– Environmental Records;
- MK-E07 – Environmental Management and Monitoring;
- MK-E08 – Infrastructure Management and Monitoring;
- MK-E09 – Accident Management Plan;
- MK-E10 – Odour Management Plan; and
- MK-E11 – Fire Prevention Plan.

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.

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[1] 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 judgment of the severity of the residual risk following implementation of the mitigation measures.

[1] A Guide to Risk Assessment and the Risk Management for Environmental Protection, 1995.

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 or plant breakdowns/ accidents and or damage to tanks or bunds Loss of containment could result in potentially polluting materials (including oils and chemicals) being discharged in surface water drainage systems and to controlled waters	Low	• The site is entirely surfaced in impermeable concrete hardstanding and therefore considered to have a low potential for impacts to groundwater; • There is no internal drainage system within the building, thereby isolating any spills from the surface water drainage system. Any spillages are contained using spill kits and collected within IBCs prior to offsite disposal; • Low volumes of chemicals / oils / greases / lubricants stored onsite appropriately stored within cages and bunds which will contain any spillages; • The sites diesel tank (500 l) is stored externally upon hardstanding and is self bunded; • All storage vessels have been constructed to the appropriate British Standard; • Tanks are inspected visually on a regular basis by site staff to ensure continued integrity and identify any necessary remedial action; • Minor spills to be cleaned up immediately, using spill kits. 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 immediately and placed in containers for offsite disposal. NRW to be informed.	Low
2 - Vandalism	Low	Moderate	Low	• On-site security measures: • The site is currently manned between 7am – 5pm. Once operational, these hours will change, with the intention of 24/7	Low

		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 or cause fires.		operation should the workload require; • Security lighting 24 hours a day; • Security cameras are installed at key areas of the site; • Security fencing extends around the site perimeter; – 2m palisade or equivalent; • Lockable gates are located at the site entrance; • Gates will be locked whenever the site is closed; • Fencing is inspected monthly during the perimeter walk around 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.	
3 - Flooding	Medium: The site is located in an area of medium risk from flooding from rivers.	Severe	Medium	• Flood warning sites to be monitored to allow preparations prior to flooding. • In the event of flooding, all hazardous wastes are stored within an enclosed building and can therefore be contained and prevented from contaminating downstream. Only waste wood is stored externally, and will be recovered as part of the floodwater clean-up.	Low
4 - Fire in processing building. Plant malfunction; Electrical equipment that could provide an ignition source;	Medium	Severe	Medium	• All plant is subject to a planned preventative maintenance schedule (MK-E08 Infrastructure Monitoring and Management Programme); • All plant has been specified to be intrinsically safe and earthed in accordance to best practice; • All aspects of the plant and buildings are constructed of non combustible materials; • The plant has been designed to shut down (fail safe) in the event of an emergency;	Low

Waste products / raw materials that may support combustion.				• Fire detecting and monitoring systems have been installed where necessary; • Separation of combustible materials from the source prior to processing; – All waste is stored within dedicated areas; – Diesel (flammable consumable) is stored externally in a self bunded tank. • In the event of a fire, the following actions will be taken: – The fire brigade will be notified immediately. – The site will be immediately evacuated. • Machinery is regularly cleaned to remove any dust, etc; • A number of fire extinguishers are placed at strategic locations around the plant. • The risk of damaged or exposed electrical cables is controlled via the regular inspection and maintenance programme. • Records of fire incidences will be kept on site together with a summary of remedial action taken. • NRW will be advised of all incidents of fire as soon as is practicable; • Smoking will not be permitted in the operations areas of the site. • The site has a detailed Fire Prevention Plan. • Firewater will be contained within the concrete lined WEE Reception Bay which is isolated from the external site drainage system, prior to offsite disposal utilising the companies own tanker fleet. This will prevent loss of containment of any contaminated firewater to the surface water drianaeg system.	
5 – Failure of Mains Services: Failure in the mains services, water or electricity.	Medium	Low	Low	In the event that mains services of water and electricity supplied to the site are unavailable, the following actions will occur: • In the event of sudden disconnection of the grid the processing equipment, including the shredder, will cease to operate; • If there is sufficient internal storage space waste deliveries would still be accepted, however if storage capacity is exceeded this will require the ceasing of waste deliveries to the site until such time as plant is up and running and able to clear the backlog of waste, so as to prevent large volumes of waste accumulating on site.	Negligible
5 - Incompatible Feedstock/ Unwanted Reactions:	Low	Moderate / Severe	Low	The following methods will be implemented to ensure that incompatible feedstocks do not compromise the safe operation of the	Low

Some of the waste inputs at the site could contain impurities that impede / prevent the processing process or cause unwanted emissions.				plant or cause unwanted emissions: • All wastes accepted onto site have been subject to 'pre-acceptance' in accordance to established procedure MK-E01; • All incoming wastes are inspected in accordance with established procedure MK-E02; • When in the waste sorting area, any non conforming waste will be removed prior to acceptance in accordance with established procedure MK-E03; • Records of incidents involving incompatible compatible will be kept on site together with a summary of the remedial action taken.	
6. 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 areas or the incomplete processing of waste. The result of operator error could result in the acceptance of odorous waste streams.	Medium	Low	Low	• The site is equipped with spare plant and equipment which can be used in the event of a single plant breakdown. (e.g. forklifts etc). • All equipment is subject to a Planned and Preventative Maintenance Programme (PPM), to minimise unplanned failures (MK-E08 Infrastructure Monitoring and Cleaning Programme) • Should the facilities storage capacities be exceeded, incoming waste will be diverted to a nearby waste processing / landfill site. • Processing activities carried out within the site are relatively simple. The plant includes an automatic alarm system to alert the operator of potential operational problems and where relevant will be triggered with sufficient safety margin to permit operator intervention to prevent an actual problem occurring. • All operational staff will be fully trained against the site operating procedures. • Training will include awareness raising of key plant parameters and the potential implications of failure to control operations as designed and the associated potential impact on the environment. • Should odorous wastes be unintentionally accepted at site, these will be temporarily stored in the external quarantine area and removed from site as soon as possible. • All incidents will be recorded and investigated appropriately according to the site incident procedure.	Negligible

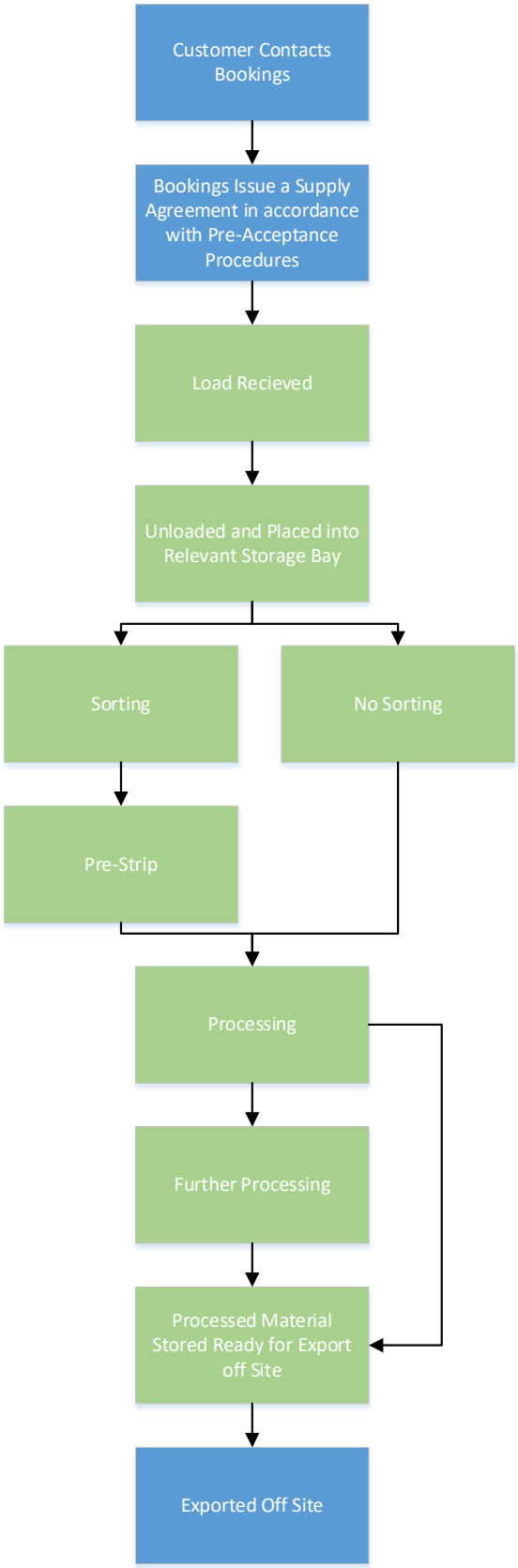
3 SUMMARY & CONCLUSION

This document has been prepared to meet the requirements pertaining to Accident Management Plans within the Natural Resources Wales guidance document *'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 operates and continues to operate using an established suite of procedures for the control and management of all materials and plant in use in their process. These procedures 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.

A simplified process flow is provided overleaf.


Customer Contacts Bookings
Bookings Issue a Supply Agreement in accordance with Pre-Acceptance Procedures
Load Recieved
Unloaded and Placed into Relevant Storage Bay
Sorting
No Sorting
Pre-Strip
Processing
Further Processing
Processed Material Stored Ready for Export off Site
Exported Off Site

ANNEX 1: Working Plan Structure

Annex 1: Working Plan		
Reference No:	Title	Purpose
MK-E01	Waste Pre-Acceptance	This procedure defines the upstream screening, checking and pre-acceptance of all incoming waste prior to its arrival on site.
MK-E02	Waste Acceptance	This procedure outlines the onsite controls and considerations that need to be applied when waste materials arrive on site for processing.
MK-E03	Waste Rejection	This procedure outlines the waste rejection process for all non-conforming wastes that cannot be processed on site. Acceptance of non-conforming wastes will be a direct breach of the permitted conditions of the sites Environmental Permit.
MK-E04	Off Site Waste Transfers	This procedure provides the necessary information to enable the assessment and off site transfer of non-conforming or untreatable waste streams.
MK-E05	Waste Reception and Storage	This procedure outlines the waste reception, storage processes for all incoming waste.
MK-E06	Environmental Records	This procedure defines the necessary Environmental Permit and Waste Records that are required to be managed by the site to ensure compliance.
MK-E07	Environmental Management and Monitoring Programme	This procedure provides an overview of all of the necessary environmental monitoring, management procedures and controls to ensure compliance with the Permit.
MK-E08	Infrastructure Management and Monitoring Programme	This procedure provides an outline of the inspection and cleaning requirements for the site.
MK-E09	Accident Management Plan	This plan refers to the sites accident management requirements.
MK-E10	Odour Management Plan	This plan refers to the sites odour management measures.
MK-E11	Fire Prevention Plan	This plan refers to the sites fire prevention measures