



## ACCIDENT MANAGEMENT PLAN

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Henley Biomass Ltd  
Brown Road, Daventry

Prepared by:  
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## 1 INTRODUCTION

This document has been prepared by Sol Environment Ltd on the behalf of Henley Biomass Ltd (hereafter referred to as “the applicant”) in support of a Bespoke Installation Permit Application for the proposed operation of a waste storage and water treatment facility at Browns Road, Daventry.

This document represents the Accident Management Plan (AMP) submitted as part of the Application package to the Environment Agency (EA) (Sol Environment Ref. SOL1703HB01).

The site is located at Browns Road, Daventry, Northamptonshire, NN11 4NS (National Grid Reference: SP 55500 62500).

The proposed Installation will receive, accept and process approximately 45,000 tonnes per annum of non-hazardous landfill and compost leachate for treatment within the evaporative units. All waste water being received by the site will be processed to form a solid residue and clean water vapour. The water vapour will be discharged directly from the evaporator unit.

The facility will be permitted by the Environment Agency as a Part A(1) Installation and will be operated in accordance with the Environmental Permitting (England and Wales) Regulations 2014.

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 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 and new procedures which have been drafted in response to the proposed new operations at site (HB-E01 to HB-10).

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

**Table 3.7: Working Plan**

| Reference No: | Title  | Purpose  |
|---------------|--|--|
| HB-E01        | Waste Pre-Acceptance                               | This procedure defines the upstream screening, checking and pre-acceptance of all incoming waste prior to its arrival on site.   |
| HB-E02        | Waste Acceptance                                   | This procedure outlines the onsite controls and considerations that need to be applied when waste materials arrive on site for processing.   |
| HB-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. |
| HB-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.   |
| HB-E05        | Waste Reception and Storage                        | This procedure outlines the waste reception, storage processes for all incoming waste.   |
| HB-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.  |
| HB-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.   |
| HB-E08        | Infrastructure Management and Monitoring Programme | This procedure provides an outline of the inspection and cleaning requirements for the site.   |
| HB-E09        | Accident Management Plan                           | This procedure refers to the sites emergency plans and response requirements.  |
| HB-E10        | Odour Management Plan                              | This procedure refers to the sites odour management requirements.  |

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<sup>1</sup> 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.

| 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.

<sup>1</sup> 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                            | <p>Moderate to Severe</p> <p>Spillage and leakage could occur during fuel deliveries, vehicle refueling, vehicle breakdowns/ accidents and or damage to tanks or bunds</p> <p>Loss of containment could result in potentially polluting materials (including oils and chemicals) being discharged in surface water drainage systems and to controlled waters.</p> | Low                           | <ul style="list-style-type: none"> <li>A sealed drainage and containment system for all wastes, leachate and firewater has been constructed so that any leaks / spills / contaminated firewater are contained;</li> <li>All surface water runoff will be collected in an underground attenuation tank. A penstock valve will be used to enable surface water to either leave the site (W1), deliver the water into one of the reception tanks to dilute the leachate water being treated or in the event of a fire, containing the potentially contaminated fire water which will be tankered off site.</li> <li>The waste water treatment hall has been constructed with measures to prevent water from escaping. Any spillage / washing down waters within the building will drain to one of the two 4m<sup>3</sup> below ground concrete storage tanks. The water collected within these tanks will then be tankered off site or manually pumped back into one of the waste reception tanks.</li> <li>Electronic monitoring on all fuel tanks and chemical vessels (i.e. level gauges, feedback loops etc);</li> <li>All storage vessels have been constructed to the appropriate British Standard;</li> <li>Tanks are inspected visually on a daily basis by site staff to ensure continued integrity of tanks, and identify any necessary remedial action;</li> <li>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;</li> <li>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</li> </ul> | Low   |  |

|   |  |  |        |   |     |
|---|--|--|--------|---|-----|
|   |  |  |        | ground. Spillage to be cleared immediately and placed in containers for offsite disposal. EA to be informed.  |     |
| 2 - Vandalism   | Low  | Moderate<br><br>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. | Low    | <ul style="list-style-type: none"> <li>The site is manned 27/7;</li> <li>On-site security measures;</li> <li>Security lighting 24 hours a day;</li> <li>Security cameras are installed at key areas of the site;</li> <li>Security fencing extends around the site perimeter; – 2m palisade or equivalent;</li> <li>Lockable gates are located at the site entrance;</li> <li>Gates will be locked whenever the site is closed;</li> <li>Gates and fencing are inspected daily by operations staff to identify deterioration and damage and the need for repair;</li> <li>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;</li> <li>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;</li> <li>Operational procedures have been implemented including regular inspections, ensuring continual monitoring of security provision at the site.</li> </ul> | Low |
| 3 - Flooding  | Medium:<br><br>The site is located in Flood Zone 1 (low risk). | Severe   | Medium | <ul style="list-style-type: none"> <li>The site is equipped with a sealed drainage and bunding system which will prevent the inflow of off site flood water;</li> <li>In the event of a storm, surface water from the development will be attenuated in the sites attenuation tank.</li> </ul>  | Low |
| 4 - Fire in plant.<br><br>Plant malfunction;<br><br>Electrical equipment that could provide an ignition source; | Medium   | Severe   | Medium | <ul style="list-style-type: none"> <li>All plant is subject to a planned preventative maintenance schedule (HB-E08 Infrastructure Monitoring and Management Programme)</li> <li>All plant has been specified to be intrinsically safe and earthed in accordance to best practice;</li> <li>All aspects of the plant and buildings are constructed of non combustible materials;</li> </ul>  | Low |

|   |            |                          |            |   |            |
|---|------------|--------------------------|------------|---|------------|
| <p>Waste products / raw materials that may support combustion.</p>  |            |                          |            | <ul style="list-style-type: none"> <li>• The plant has been designed to shut down (fail safe) in the event of an emergency;</li> <li>• 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;</li> <li>• Fire suppression, detecting and monitoring systems have been installed where necessary;</li> <li>• No combustible materials are stored on site;</li> <li>• All flammable process consumables shall be stored in bunded tanks.</li> <li>• In the event of a fire, the following actions will be taken: <ul style="list-style-type: none"> <li>– The fire brigade will be notified immediately and the EA as soon as practicable.</li> <li>– All containment valves and systems will be closed.</li> <li>– The site will be immediately evacuated.</li> </ul> </li> <li>• Records of fire incidences will be kept on site together with a summary of remedial action taken.</li> <li>• The entire site will be subject to a third party DSEAR assessment and all recommendations / mitigation measures incorporated</li> <li>• The EA will be advised of all incidents of fire as soon as is practicable;</li> <li>• Smoking will not be permitted in the operations areas of the site.</li> </ul> |            |
| <p>5 - Incompatible Waste Water:</p> <p>Some of the waste water at the site could contain impurities that cause damage the process.</p> | <p>Low</p> | <p>Moderate / Severe</p> | <p>Low</p> | <p>The following methods will be implemented to ensure that incompatible waste waters do not compromise the safe operation of the plant:</p> <ul style="list-style-type: none"> <li>• All wastes accepted onto site have been subject to 'pre-acceptance' in accordance to established procedure HB-E01;</li> <li>• All incoming wastes are accepted in accordance with established procedure HB-E02;</li> <li>• Any non conforming waste will be removed prior to acceptance in accordance with established procedure HB-E03;</li> <li>• Records of incidents involving incompatible compatible will be kept on site together with a summary of the remedial action taken.</li> </ul>  | <p>Low</p> |

|   |               |            |            |  |                   |
|---|---------------|------------|------------|--|-------------------|
| <p>6 - Failure of Mains Services:</p> <p>Failure in the mains services, water or electricity could cause significant issues within plant</p>  | <p>Medium</p> | <p>Low</p> | <p>Low</p> | <p>In the event that mains services of water and electricity supplied to the site are unavailable no waste water will be pumped from the storage tanks to the evaporators and all operations on site will cease.</p>   | <p>Negligible</p> |
| <p>7 - Operator Error / Failure of Equipment:</p> <p>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 treatment of waste.</p> <p>The result of operator error could result in the plant not functioning efficiently or a risk of fugitive emissions to air through uncontrolled decomposition of biological waste.</p> | <p>Medium</p> | <p>Low</p> | <p>Low</p> | <p>The site is equipped with spare plant and equipment which can be used in the event of a single plant breakdown.</p> <p>The facility has been designed with a number of fail safe and automatic shutdown systems.</p> <p>Should the facilities storage capacities be exceeded, incoming waste will be diverted to a nearby waste processing / landfill site.</p> <p><i>The above capacity measures allow waste to be received while equipment repairs are affected.</i></p> <ul style="list-style-type: none"> <li>• All equipment is subject to a Planned and Preventative Maintenance Programme (PPM), to minimise unplanned failures (HB-E08 Infrastructure Management and Monitoring Programme)</li> <li>• The plant also has in place a number of Emergency Shutdown Controls to ensure safe shut down in emergency.</li> </ul> | <p>Negligible</p> |

### 3 SUMMARY & CONCLUSION

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 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 procedural map of the site working plan is provided in Figure 3.1 below. Please refer to the Site Working Plan Manual (Ref. HB-SWP).

