RAINBOW MOUNTAIN
Renewable Energy

RAINBOW MOUNTAIN RENEWABLE ENERGY

EMERGENCY MANAGEMENT PLAN

Operation of Anaerobic Thermal Reduction (Pyrolysis) Processing Plant

Rainbow Mountain Resource Recovery Centre

216 State Highway 38, Waimangu

Version 1.0 – June 2023

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1. INTRODUCTION

1.1 PURPOSE

Rainbow Mountain Renewable Energy Limited ("**RMRE**") has received resource consents from Bay of Plenty Regional Council ("**Regional Council**") and Rotorua Lakes District Council ("**District Council**") to authorise trials associated with resource recovery operations at 216 State Highway 38, Waimangu ("**the site**"). Specifically, resource consents have been lodged in relation to the undertaking anaerobic-thermal-reduction ("**ATR**") pyrolysis trials at the site (over a 6-month period).

As the ATR Plant and associated activities will involve the storage and use of hazardous substances, an Emergency Management Plan ("**EMP**") has been prepared to ensure measures are implemented on the site to minimise the potential risk, and any associated effects, of a spill and / or accidents involving hazardous substances. To this effect, performance standards HAZS-S1 (Site design and management), HAZS-S2 (Waste management), HAZS-S3 (Signs) and HAZS-S4 (Emergency Management Plans) of the Rotorua District Plan ("**District Plan**") have been addressed, where relevant, in the preparation of this EMP.

2. ROLES AND RESPONSIBILTIES

ROLE	*CONTACT PERSON*	*CONTACT DETAILS*
General Manager (RMRE)	Gareth Strawbridge	027 659 1641
Site Manager (RMRE)	TBC	TBC
Site Manager (Rainbow Mountain)	Mark Watchman	021 531 633
Operators	Various (TBC)	

3. LIKELY HAZARDOUS SUBSTANCES ON SITE

Hazardous materials will be used and processed as part of the operation of the ATR Plant and associated plant and equipment. These materials require careful management of their handling and storage to protect personnel and the environment from exposure to their potentially harmful effects.

The following hazardous substances are likely to be stored and/or used on site during construction and operational activities;

- Liquid fuels such as diesel and petrol;
- Lubricating and hydraulic oils;

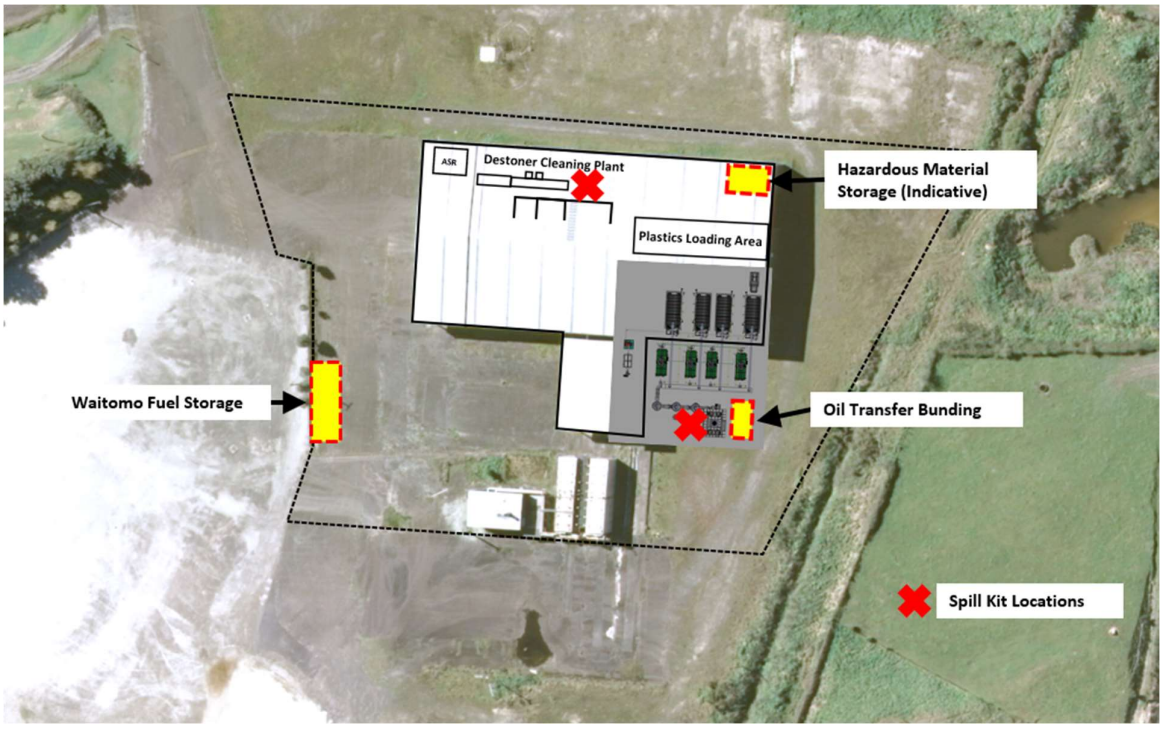
- Caustic Chemicals such as ammonia used in the industrial scrubbers;
- Coolants;
- Chemicals for cleaning equipment and parts; and
- Waste and effluent from amenities.

These chemicals pose a potential threat to the environment and the safety of site personnel and neighbouring residents if not stored and used correctly. A register of all potential contaminants and hazardous materials imported to site for storage will be compiled and maintained. This register will as a minimum identify:

- Description of material;
- Storage location;
- Verification exterior labelling in place;
- Emergency waste management procedures; and
- Specialist clean up contractor contact details.

All hazardous materials shall be handled and stored in a manner which mitigates risk of spillage and accidental contamination of drainage routes.

4. SITE PLAN



5. STORAGE AND REFUELLING LOCATIONS

5.1 STORAGE LOCATIONS

Industry best practice will be applied for the storage, handling, transport and disposal of hazardous substances as required by guidelines set up under the Hazardous and New Organisms Act.

Storage of hazardous materials will be within the existing ATR Plant building which contains the pyrolysis reactors and Cleaning Plant. Hazardous materials are to be stored in a container designed for storing materials of this nature and includes bunding. The specific location of the storage container is outlined in the previous plan. All material stored on site will require a Job Safety and Environmental Analysis (**JSEA**) and Material Safety Data Sheet (**MSDS**) prior to storage and use on site. These documents will be held in the document control file held within the main site office.

Provisions will be made for any hazard substances that requires special storage during operations.

5.2 REFUELLING LOCATION

A specific refuelling location will be provided by way of a self-contained and bunded fuel tank supplied by Waitomo Fuels. The following general requirements will be adhered to during operations:

- Set up a designated area on site for refuelling and/or maintenance and cleaning if this needs to be done on site;
- Ensure the designated area is not adjacent to a stormwater drain or waterway;
- Ensure area is bunded, or any spills can be contained;
- Locate hydrocarbon spill kits in the designated area;
- Inform site crew where refuelling and maintenance areas (including spill kits) via toolbox meetings;
- Repair any plant and equipment that is found to be leaking or otherwise faulty as soon as possible. If it is unable to be repaired, make sure it is returned to the workshop for repair;
- Undertake any maintenance or refuelling in designated areas only;
- Check bunding to ensure it is in place and has not been moved or damaged by vehicles;
- Check all stormwater protection is in place and undamaged;
- Promptly clean up any spills;
- Ensure that vehicles and machinery are not left unattended during refuelling.

- Ensure any contaminated materials (including soil from the refuelling area) is removed and disposed of to an approved landfill; and
- Ensure any disturbed areas are stabilised.

5.3 OIL OUTPUT HANDLING AREA

The Pyrolysis process uses chemical recycling to convert plastic feedstocks into outputs which include oil. Oil is captured in a closed system through condensing tanks, which once fill will be transferred to storage tanks for transporting offsite. The following general requirements will be adhered to during operations:

- Set up a designated area on site for transferring oil from collection tanks to storage tanks;
- Ensure the designated area is not adjacent to a stormwater drain or waterway;
- Ensure area is bunded, or any spills can be contained;
- Locate hydrocarbon spill kits in the designated area;
- Ensure staff transferring oil are appropriately trained and are following operating procedures;
- Repair any plant and equipment that is found to be leaking or otherwise faulty as soon as possible. If it is unable to be repaired, make sure it is returned to the workshop for repair;
- Undertake any maintenance in designated areas only;
- Check bunding to ensure it is in place and has not been moved or damaged by vehicles;
- Check all stormwater protection is in place and undamaged;
- Promptly clean up any spills;
- Ensure that tanks are not left unattended during transfer;
- Ensure any contaminated materials (including soil from the refuelling area) is removed and disposed of to an approved landfill.

6. RISK MANAGEMENT

The following risk control measures will be applied to manage any adverse environmental effects from the management, handling and storage of the identified hazardous substances:

- All hazardous substances are to be stored securely on site within the lockable bunded areas to be established prior to commencement of operations;
- Locate hazardous substances storage areas where they will not pose a hazard to the environment, including areas near waterways (minimum of 100m);
- Clearly identify hazardous substance storage areas with appropriate signage and labels;

- Ensure that MSDS are readily accessible in a central location for all hazardous substances stored;
- All materials and chemicals on site are to be registered by the relevant administrative staff of the operator, and stored as per MSDS requirements;
- Regular site audits of hazardous material storage, handling and use are to be conducted;
- Only the minimum required volumes of hazardous substances and materials are to be stored on site at any time;
- All refuelling is to be undertaken in designated bunded areas where possible. Appropriate spill prevention measures should be applied to all mobile refuelling activities (e.g. drip tray located beneath fuel connection point);
- All mobile fuel tankers are required to carry spill kits;
- All machinery shall be regularly maintained in such a manner as to minimise the potential for leakage of contaminants;
- No machinery shall be cleaned, stored or refuelled within 20 meters of the bed of any water body;
- Materials only to be handled in designated impermeable areas and in no circumstance is any material to be handled on permeable ground or ground not established for suitable handling of any potential runoff;
- Periodic maintenance and monitoring of ATR Plant reticulation;
- Only trained and authorised personnel use, handle and dispose of hazardous substances;
- A person trained in first aid must be available during the handling and use of hazardous substances;
- Spill kits and liquid containment equipment shall be located at the storage and refuelling areas;
- All waste will be disposed of in accordance with appropriate regulations;
- Appropriate personal protective equipment (PPE) must be utilised when handling potentially hazardous materials, as specified by the MSDS. PPE may include (but not limited to) the following:
    - Coveralls/long pants and long-sleeved shirt (drill cotton as a minimum);
    - Covered footwear;
    - Safety glasses and gloves; and
    - Respiratory gear, particularly for spills in contained areas.
- Depending on specific work duties, the following issues must be covered as a part of the site induction training for construction personnel:

- How to use the spill kits;
- The location of various hazardous substances on site;
- The degree of risk associated with the use of hazardous substances pertaining to the respective activities of the inducted personnel;
- The location of the MSDSs;
- The safety procedures that need to be followed regarding the storage, handling and use on site of the hazardous substances; and
- Emergency Evacuation and Response procedures.

7. SPILL KITS

Spill kits are to contain a mixture of absorbent mats, pads and socks appropriate to the activities and location. Additional PPE such as rubber gloves and coveralls will be included where required.

In addition, if deemed necessary, a floating 'oil only' absorbent boom will be available to enable immediate deployment in the event of a spill to surface water.

Refer to Appendix A which outlines the basic spill kit requirements' to be adhered to at all times. Location of Spill Kits is shown on the Site Plan in Section 4 above.

8. TRAINING

All staff are responsible for environmental performance to meet the expectations of this management plan and environmental obligations. In establishing Environmental Management the Site Manager will ensure adequate knowledge and capability is available. Training and guidance will be provided to staff as required to align with the type of work being performed. An understanding of the environmental competence of external providers is obtained during the prequalification process.

A list of staff trained in environmental activities will be maintained on site within the site office. The Site Induction will provide a key forum to cover the following:

- Potential sources of contamination from the site
- Different types of materials found in the spill kit and how it can be used
- Actions to be taken in the event of a spill

9. MEASURES TO REMEDIATE A SPILL

In the event of an environmental incident on site involving the use hazardous materials and substances appropriate measures shall be put in place to minimise potential environmental and safety risks. During any spillage the safety of the people involved must be the first consideration,

followed by the environment, security of capital investment and detainment of product being stored.

Personnel involved in a clean-up must be issued with appropriate protective clothing and avoid the spilled product contacting skin. Operations in marginal weather conditions which would endanger the clean-up personnel must be suspended until conditions improve.

Spill Assessment:

- Positively identify the material and then refer to MSDS information;
- Assess if you can safely deal with the spill. Do not under any circumstances attempt to contain any spills containing acids as these fumes are extremely dangerous. Immediately evacuate the building and call the Fire Service on 111 with details of the product and size of spill;
- If safe to approach the spilled material, follow Safe Spill Response Procedures;
- If not safe activate follow the Large Scale / Hazardous Spill Procedure.

Large Scale / Hazardous Spill Procedure:

- Notify Site Manager;
- Call the fire service and advise the nature of the spill and the quantity involved;
- If there is a possible risk to people, evacuate the area, ensuring that people remain upwind and the spill area is closed to public access;
- Remove all sources of ignition to prevent an explosion of flammable vapours;
- Only attempt to contain a spill if you have been trained in spill clean-up for the substance involved and have the proper protective equipment. Otherwise, do not approach or come into contact with the substance;
- If safe to do so, reposition leaking containers to prevent further leakage;
- If there is a possibility of the spill entering the drainage system, or causing an environmental problem, create a temporary bund around any drainage sumps and contact the Bay of Plenty Regional Council.

Safe Spill Response Procedures:

- Kerosene, Diesel, Turpentine and Oil Spills

    1. Cordon off area and remove all sources of ignition;
    2. Do not use metal tools;
    3. Do not use water to wash down the area;
    4. Use squeegees etc to concentrate the volume of the spill;

5. Mop up, pump, skim (or otherwise remove) as much product as possible and place in leak-proof containers (usually drums);
6. Seal containers and arrange for disposal as per normal waste disposal procedures;
7. Sprinkle sand over the area (if required); and
8. Notify Site Manager.

10. SIGNS

All hazardous facilities shall be sign posted to indicate the nature of the substance stored, used or otherwise handled. It is the responsibility of the Site Manager to install and maintain all appropriate signage identifying hazardous substances in accordance with the Environmental Protection Authority (EPA) approved Code of Practice for Signage for Premises Storing Hazardous Substances and Dangerous Goods HSNO COP 2-1 09-04 and any requirements of the HSNO Act and regulations.

11. CONTACT LIST

The appropriate notification process will be followed based on the identified spill category:

Type 1 (Safe Spill): A minor spillage within the boundaries of the site that has been, or is able to be, cleaned up by staff from the company involved and no damage to the environment has occurred.

The Site Supervisor shall:

- Notify the Environmental Officer

Type 2 (Large Scale / Hazardous): A spillage that has flowed off-site or has the potential to leave the site (this includes vapours of flammable liquids), or the company staff are not able to clean up the spill and its effects safely.

The Site Supervisor shall notify:

- NZ Fire Service (111);
- Police (if appropriate) (111);
- Bay of Plenty Regional Council;
- Rotorua Lakes District Council; and
- Worksafe.

APPENDIX A: BASIC SPILL KIT REQUIREMENTS

Purpose

This procedure addresses the basic requirements for spill kits to ensure a consistent standard of spill kit at the RMRE ATR Plant. The management of spill kits is essential to ensure that the contents are appropriate for the types of substances used and created during maintenance and to enable fast and effective response to a spill incident.

Scope

This procedure applies to all personnel working on RMRE Sites. The Site Manager shall be responsible for ensuring compliance with this procedure.

HSE Risk Factors

The following HSE risk factors may be present when dealing with spills on site:

- Contamination of Waterways;
- Contaminated Land;
- Damage to Fauna and Flora, e.g. Fish Kill;
- Staff exposure to hazardous substances, e.g. via inhalation, skin contact, or ingestion;
- Spills in spilled product;
- Potential fire or corrosive risk; and
- Risk to general public and road users.

Procedure

The following materials are the basic requirements for the contents of spill kits:

1. Personal Protective Equipment (PPE)

   Ensure that all spill kits are fully stocked with the following PPE as a minimum:

   - Disposable respirator;
   - Safety glasses;
   - PVC gloves; and
   - Disposable coveralls.

2. Spill Kits and Recommended Minimum Spill Kit Allocation

   Ensure that spill kits are fully stocked with the following basic spill containment materials, some materials will be additional to what is contained in a standard spill kit but will be essential when dealing with a spill event. Outlined below is the minimum recommended spill kit allocation:

   - ATR Plant Oil Transfer Zone / Refuelling Locations

- At least one 240L General Purpose Spill Kit (wheelie bin type);
- Include a length of inexpensive rope/twine (to be used to secure booms or seal rubbish bags if required);
- Extra rubbish bags;
- Copy of a Spill Management Procedure;
- Emergency contact list for clean-up assistance, eg, sucker trucks, appropriate landfill disposal areas, council hotline numbers, contact for supply of additional absorbent materials;
- Should be secured with tag noting last inspection/refill date; and
- Specialist hydrocarbon spill kits.

- Site Office
  - Minimum of a 18.5L General Purpose Spill Kit;
  - Minimum of 20L or 20kg bag of absorbent material (in addition to what is required for responding to any contractual obligations);
  - Include a length of inexpensive rope/twine (to be used to secure booms or seal rubbish bags if required);
  - Extra rubbish bags;
  - Copy of a Spill Management Procedure;
  - Emergency contact list for clean-up assistance, eg, sucker trucks, appropriate landfill disposal areas, council hotline numbers, contact for supply of additional absorbent materials; and
  - Should be secured with tag noting last inspection/refill date.