

## **ENVIRONMENTAL PLAN**

### **Bio Aerosol Management Plan**

**EP – 05**

## 1. PURPOSE

To ensure that emergency planning is in place to reducing risk of incidents and to minimise the risk of harm to employees, third parties and the environment.

## 2. SCOPE

This Management Plan provides guidance on the appropriate preparation for, and response to, foreseeable incidents arising from Natural UK's Healthcare Waste Management Facility (HWMF) activities. Natural UK Ltd acknowledges its legal duties to control and manage any harmful emissions that could arise as part of its day to day activities and under part III of the Environmental Protection Act 1990, in respect of statutory nuisances.

## 3. RESPONSIBILITIES

The following personnel hold primary responsibility for ensuring that the requirements of this procedure are met. General responsibilities are summarised below:

Action	Responsibility
Ensuring that environmental response plans and equipment are in place on site.	Managing Directors Technically Competent Manager
Ensuring that staff have received appropriate training	Managing Directors Technically Competent Manager
Support and liaison	Managing Directors Technically Competent Manager
Completion of Weekly Environmental Checks	Operations Supervisor
Prompt reporting of environmental incidents	All
Reviewing environmental incidents for learning points	Managing Directors Technically Competent Manager

In certain instances, designated personnel may deputise for the Managing Director and or the Technically Competent Manager. In general, these deputies should operate within the same organisational functions as those with primary responsibility for the activity concerned. Natural UK, Natural Healthcare, NappiCycle staff frequently work on other companies sites and locations all staff must comply with those sites regulations and procedures all of the time.

## 4. REFERENCES

QMS -01 Working Plan

QMS -06 Non-Conformance Reporting

QMS -11 Health & Safety

QMS -14 Management Systems Review

EP -09 Emergency & Incident Response Plan

Weekly Environmental Inspection Report

## 5. INCIDENT PREPAREDNESS

The Technically Competent Manager (TCM) is responsible for ensuring that adequate preparation has been made both to minimise the risk of incidents and to allow adequate emergency response. These measures shall include:

Periodic review to ensure that response capability is at the desired level.

The TCM will use the results of this exercise to identify requirements (training, equipment, etc) for his site. These requirements will be communicated to Management, who will put them in place, with the assistance of the Health and Safety Manager as required. Sighting of any emergency equipment will take into account the most likely areas of its use on site, security and ease of access in emergency.

The TCM shall set up an Emergency Plan including organisation and responsibilities, general precautions, liaison with the emergency services, detection systems (where relevant) and environmental training.

Emergency call out numbers will be clearly displayed on each site. These will include:

- **Technically Competent Manager**
- **Health & Safety Manager**
- **Managing Directors**
- **The Natural Resources Wales (NRW)**
- **Health & Safety Executive**
- **Police Service**
- **Fire Service**
- **Ambulance Service**
- **First Aider(s)**
- **Spill Response contractor (if applicable)**

## 6. BIO AEROSOL MANAGEMENT PROCEDURES

Natural UK must employ the appropriate measures necessary to prevent pollution or minimise it when prevention is not practicable. The measures outlined in this document are a direct result of a risk assessment carried out to determine the main risk and likely impacts during the course of Natural UK and Nappicycles activities.

Emissions of bio aerosols can be generated where liquids or wet materials containing microorganisms are agitated or sprayed. Micro droplets of water that may potentially contain microorganisms can become airborne (aerosolised). If these aerosols subsequently escape into the surrounding air they may travel away from the source carried by the surrounding air currents. Gravity acts on these aerosols, which then settle on surfaces nearby. The concentration of aerosols reduces the further away from the source of its generation. For operators the risk is that aerosols containing microorganisms (bio aerosols) land on them or are inhaled. This risk increases the closer one gets to a source of aerosolisation.

On site there are a number of activities/operations where there is a risk of generating aerosols.

- **NappiCycle AHP waste treatment** – This process involves shredding, washing, dis-infecting and de-watering of non-hazardous, non-infectious, offensive hygiene wastes. The process is likely to generate aerosols

- **Hazardous clinical waste transfer activities** involves transfer and storage of infectious wastes contained in sealed UN approved containers and lockable leak proof wheelie bins. This activity is subject the procedures outlined in EPR 5.07, 2011 and is considered a lower risk of generating aerosols
- **Washing** of plant, equipment and containers with high pressure water or steam has a higher potential to generate aerosols.

Working on that basis to minimise the risk Natural UK will implement the following control measures:

### **Control Measures to minimise the risk of bio aerosols from site activities**

#### **General Control Measures**

- Floor surfaces, plant, equipment and storage containers should be cleaned and dis-infected regularly
- Appropriate personal protective equipment (PPE) will be worn by persons operating in or around equipment that has the potential to generate aerosols this will include: Hardhats, overalls, high visibility jacket, face masks, goggles, visors, safety boots and disposable gloves. and for HP water cleaning, waterproof jacket and trousers
- Wastes should be managed within the appropriate building on a sealed impermeable surface.
- Access doors to buildings shall remain closed during processing/transfer operations.
- Any new equipment or plant will be risk assessed for potential to generate aerosols and additional measures may be put in place to mitigate this
- All staff and contractors should employ good hygiene practices washing hands with soap before taking breaks to eat, drink or smoke.
- Designated operational PPE must be removed before entering offices and using welfare facilities to keep these areas clean
- Reusable overalls should be regularly laundered. Other reusable PPE should be regularly cleaned and dis-infected. Disposable PPE should be appropriately disposed of after use
- Periodic background monitoring of microorganisms should be carried on surfaces in and around the operational facilities using swabs and air monitoring plates. The swabs and plates to be analysed by third party laboratory and records maintained
- Periodic environmental checks shall be undertaken around the site and documented (weekly environmental inspections).
- Incidence procedures are in place in order to act upon any nuisance, accidents, complaints or non- conformances (non-conformance /incident report)
- Vaccinations are offered to all operational personnel are encouraged for Hepatitis A & B

#### **Control Measures specific to NappiCycle AHP Waste treatment**

- Strict pre-acceptance and acceptance procedures should be in place to ensure that only non-hazardous offensive hygiene wastes are presented for treatment
- AHP wastes should be received loose in sealed plastic bags
- Wet waste processing equipment should sealed or shielded where liquids have the potential to aerosolise e.g. shredders and screw presses
- All waste processing should be carried out within sealed equipment with any process liquids contained to prevent escape by leakage
- Ozonation devices maybe employed to combat microorganisms and volatile organic compounds in the areas with risk of bio aerosol generation. e.g. over waste storage areas
- Waste storage bays should be emptied periodically to ensure waste residues are removed and the push walls and floor surfaces cleaned and dis-infected
- Washing of reusable wheelie using High Pressure water or steam should be carried out using clean mains water and disinfectant and in a controlled well ventilated area with sealed drainage

- Designated PPE requirements: hard hat, overalls, face mask, high viz, safety glasses or visor, waterproof safety boots (no laces), disposable gloves. Waterproof overalls to be used for high pressure washing

#### **Control Measures specific to Hazardous clinical waste transfer station**

- Strict pre-acceptance and acceptance procedures should be in place to ensure that hazardous and non-hazardous clinical wastes be accepted on site in UN approved containers.
- All clinical wastes are to be stored on site in sealed, leak proof lockable containers
- Designated PPE requirements: face mask, high viz, safety glasses or visor, safety boots, disposable gloves. Waterproof overalls to be used for high pressure washing

#### **Control Measures specific to Washroom for re-usable feminine hygiene containers**

- Washing of reusable feminine hygiene containers with mains pressure water should be carried out using clean hot and cold mains water, disinfectant and in a controlled well ventilated area with a sealed drainage system
- Designated PPE requirements: face mask, high viz, safety glasses or visor, safety shoes or boots, disposable gloves.

## **7. RECORDS**

All incidents raised must be recorded and reported to the Responsible Manager to enable the causes to be investigated and to undergo a root cause analysis. This should ensure the likelihood of a re - occurrence is minimised. Records shall be kept on an incident response form and kept on file.

Weekly Environmental Inspection will be carried out by the Responsible Manager, documented and filed. Issues raised may require remedial actions and these can be documented on this form. The form should be reviewed and countersigned by the TCM or Managing Directors when the issues have been actioned or resolved.