AC ENVIRONMENTAL CONSULTING

Emissions Control Plan

Eurokey Recycling Ltd

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Eurokey Recycling Ltd

Ref: EK.PT.ECP.2510

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1.0 INTRODUCTION

This document details the emissions control strategy for the plastic recycling process at the Eurokey Recycling Ltd facility in Corby. The plan identifies the potential environmental risks associated with this treatment process and outlines the mitigation and control measures implemented to prevent pollution and minimise environmental impact.

This version of the plan has been prepared for external consultation and excludes commercially sensitive information about process design, equipment specifications, and operational data. All environmental protection and monitoring measures described herein are equivalent to those detailed in the confidential technical documentation held by the Environment Agency.

All operations are conducted in accordance with the site's overarching Environmental Management System (Ref: EK.PT.EMS.2501).

2.0 PROCESS DESCRIPTION

The thermal reprocessing is the final stage in converting washed and dried plastic waste into a reusable raw material. The key stages are:

1. **Feeding**: Dried plastic flake is fed via conveyors into the cutter compactor of the processing plant.
2. **Melting and Homogenising:** The material is heated, cut, and mixed. A rotating screw conveys the plastic forward, ensuring it is completely melted, mixed, and homogenised.
3. **Filtering & Degassing:** The molten plastic is passed through a filter to remove any remaining impurities. A degassing unit, using vacuum pumps in a closed loop, removes trapped moisture and volatile compounds.
4. **Thermal Reprocessing:** The molten plastic is output in strands, cooled by an on-site chiller, and formed into a granulated product suitable for reuse.
5. **Bagging:** The final reprocessed material, which meets end-of-waste criteria, is bagged into bulk bags for storage and dispatch.

The entire thermal reprocessing process is fully enclosed to contain emissions.

3.0 POTENTIAL RISKS & EMISSION CONTROLS

The following table identifies the potential environmental risks from the thermal reprocessing process and the specific mitigation measures in place.

Potential Risk / Emission	Description of Risk	Mitigation and Control Measures
Emissions to Air (Dust & Fumes)	The process of heating and melting plastics can release volatile organic compounds (VOCs) and fumes. The handling and processing of plastic can generate dust.	The entire thermal reprocessing process is fully enclosed, which physically contains emissions at the source. The processing building is equipped with a comprehensive LEV dust extraction and filtration system. The system captures any fugitive dust or fumes generated during the process, filtering the air before it is discharged.
Noise	Operation of the thermal reprocessing plant, including conveyors, and chiller unit generates noise that could impact the surrounding environment.	All processing activities, including extrusion, are conducted indoors within the main industrial building. This provides significant noise attenuation. All plant and equipment are subject to a planned maintenance programme to ensure they run efficiently and quietly. Plant and vehicles are switched off when not in use to minimise background noise.
Waste Generation	Small quantities of non-conforming plastic waste may be generated if the process deviates from specification.	The process is monitored to ensure the output meets quality specifications, minimising waste. Any non-conforming plastic recyclate is collected, segregated in designated stillages, and re-processed where possible, or stored for removal to a suitably permitted facility.
Accidents (Leaks & Spills)	Spills of finished granulated product could create a slip hazard and, if they escape the building, could be a source of microplastic pollution.	All processing and storage takes place on an impermeable concrete surface, preventing any contamination of the underlying ground.

		All operations occur within the building, preventing granulated product from being dispersed by wind or rain. The site is inspected daily for tidiness. Any spills are cleaned up immediately. Spill kits are available on site.

3.1 Local Exhaust Ventilation (LEV) System Details

The LEV system is a critical control measure for air emissions.

- **Design:** The system uses adjustable fume extraction arms with capture hoods positioned close to emission sources at various points on the plant to draw contaminants away.
- **Filtration:** Dust is captured by vertically mounted high-efficiency filtration units fitted with non-fibre cellulose filters, with self-cleaning capability. Hot water vapour is extracted separately.
- **Self-Cleaning:** The filter units are self-cleaning. A time-controlled pulse of high-pressure air dislodges dust from the filter cartridges into an enclosed 35-litre collection bin. The collected dust is then disposed of at an authorised facility.
- **Discharge:** Clean, filtered air is ducted to the atmosphere via five discharge outlets on the building's roof, which terminate with high-velocity cowls to ensure effective dispersal.
- **Activation:** The LEV system is automatically activated when the processing plant is turned on, with a manual override for maintenance.

4.0 MONITORING & MAINTENANCE

4.1 Visual Monitoring

Daily visual assessments of dust and emissions will be conducted at the start of operations and during the working day by the Site Manager, using a formal check sheet.

- **Checks:** Observations of the yard, building interior, stockpiles, and airborne dust will be noted, including weather conditions.
- **Action:** If visible dust is generated, the source will be identified and corrective action taken immediately. This may include using a hose to dampen surfaces, deploying sweepers, or modifying the specific operation.

- **Triggers:** Operations will be suspended if visible emissions cross the site boundary towards any sensitive receptor, or during "Red" trigger weather conditions (e.g., dry with wind speeds >8 mph).

4.2 Planned Maintenance & Record Keeping

A comprehensive maintenance programme is in place for the LEV system and all processing machinery.

- **Regular Inspections:** Daily/weekly visual checks of hoods, ductwork, and filters. Monthly checks of airflow rates and filter pressure.
- **Filter Maintenance:** Filters are cleaned via the automated system and replaced according to manufacturer recommendations.
- **Formal Testing:** A thorough examination and test of the LEV system will be carried out by a qualified engineer at least every 14 months.
- **Record Keeping:** A log of all maintenance activities, inspections, and repairs is kept in the site office.

4.3 Incident & Complaints Response

A formal procedure is in place for handling any complaints or incidents related to dust or emissions.

1. **Recording:** All complaints will be recorded on a complaint form, including details of the complainant, time, and nature of the issue.
2. **Immediate Investigation:** The Site Manager will investigate immediately to identify the cause. This may involve suspending likely dust-generating activities.
3. **Corrective Action:** Appropriate abatement measures will be taken, such as increasing dust suppression, or suspending the specific operation until controls are effective.
4. **Communication:** The complainant and the Environment Agency will be informed of the findings and the actions taken. A response will be provided to the complainant within 24 hours.
5. **Review:** The incident will be discussed at management meetings to identify trends and instigate further remedial measures, including updates to this plan.

5.0 PLAN REVIEW

This Emissions Control Plan will be reviewed annually as part of the Environmental Management System review, or more frequently if there is a change in process, an incident occurs, or in response to new legislation or regulatory guidance.