



AC
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Wash Water Plant Management Plan



Eurokey Recycling Ltd

Unit 2, Raven Park, Earlstrees
Industrial Estate, Corby, NN17
4DU

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Eurokey Recycling Ltd

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1.0 INTRODUCTION

This document outlines the management plan for the wash water generated by the plastic recycling process at the Eurokey Recycling Ltd facility, located at Unit 2, Raven Park, Earlstrees Industrial Estate, Corby.

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.

The plan details the operating techniques and control measures in place to manage the water from the process circuits effectively, ensuring that water is used, treated, and contained in a manner that prevents pollution and minimises environmental impact. All operations are conducted in accordance with the site's Environmental Management System (Ref: EK.PT.EMS.2501).

1.1 Pre-Treatment Information and Process

The facility utilises a pre-treatment system which involves cleaning and preparation of waste to remove contaminants from incoming plastic waste. The system is designed as a closed-loop circuit to maximise water efficiency and minimise discharge.

- **Pre-Treatment processing lines:** The facility processes post-use plastic films through several pre-treatment processing lines.
- **Water Recycling:** The system incorporates a split-level water recycling plant designed to treat and recycle up to 95% of the water used in the process.
- **Process Flow:** Wastewater from the process circuits is directed into a dedicated drainage system consisting of trenches. This water flows into mix pits, which act as primary settling areas for heavier solids like grit and dense plastic particles.
- **Preliminary Screening:** To two processing lines a drum screen is used for initial screening, while to one other processing line, a grit separator is used to remove heavier particles like sand.

1.2 Water Treatment Details

Following preliminary screening, water from all lines undergoes chemical-physical treatment. The treatment process involves:

- **Primary Treatment:** Water is pumped into a dissolved air flotation (DAF), where coagulants, pH correction chemicals, and polymers are added as required. Pumping and screening into a balancing tank for mixing and aeration.
- **Chemicals Used:** The treatment process utilises a splitting agent or coagulant, anionic and cationic polymers, and caustic soda (33-50%) to aid the flotation process.

Quantities stored on site

- 3x IBCs splitting agent
- 500 kg powder polymer
- 500 kg liquid polymer
- 400 kg defoamer
- 2x IBC NaOH (caustic soda) 33%

Approximate consumptions:

- Powder polymer: 0.01 – 0.02 kg/m³
- Liquid polymer: 0.15 – 0.3 l/m³
- Splitting agent: 0.3-0.5 l/m³
- NaOH (caustic soda): very different depending on the material, approx. 0.05 – 0.1 l/m³ at 33%
- Defoamer: very different depending on the material, exact information is not possible
- **Sludge Treatment:** Sludge removed from the DAF process is dewatered before being stored in a designated 29.3m³ skip in the external yard.
- **Treated Water:** Treated water is either recycled back into the closed-loop process system via a header tank or discharged to the sewer.

1.3 Emission Controls

Comprehensive controls are in place to manage emissions to water, land, and air, with a primary focus on preventing pollution from the wash water system.

- **Drainage:** The site has a dual drainage system. All pre-treatment process water is contained within a dedicated, sealed drainage system inside the building. Surface water run-off from external areas used for waste storage is directed through an oil interceptor before entering the Anglian Water foul sewer. The site is equipped with an attenuation tank and a hydrobrake to control surface water discharge flows to a maximum of 17.5 litres per second.
- **Water Containment:** In the event of a fire, flood, or significant spill, several containment measures are available. These include deployable Water Gate barriers at site entrances, clay mats to cover drains, and a gate valve on the site's interceptor that can be closed to contain all water on-site. The building's roller shutter doors will also be closed.
- **Odour Control:** The waste types accepted (post-industrial and post-consumer plastic packaging) are not typically malodorous. Good housekeeping practices and a 'First-In, First-Out' waste rotation system ensure that materials are processed quickly, preventing the development of odours. Any waste identified as malodorous is segregated and removed from the site for appropriate disposal at the earliest opportunity.

2.0 WATER MONITORING AND SAMPLING

To ensure the wash water remains suitable for use within the closed-loop system and that any potential discharge meets regulatory requirements, a robust monitoring and sampling schedule is implemented.

2.1 Source of Water

The primary source of water for the processing line is the recycled water from the on-site treatment facility. The system is topped up with fresh mains water supplied by Anglian Water, which accounts for approximately 5% of the total water used per hour per line.

2.2 Water Suitability Checks

Water quality is checked through a combination of on-site testing and external laboratory analysis to ensure the treatment process is effective and the water is suitable for reuse.

- **Routine On-site Sampling:** pH monitoring will be carried out daily, by trained site personnel, using a handheld pH probe to test a 500ml sample drawn from the testing point. The sample

location is on the holding tank used to hold water prior to discharge. Weekly checks are conducted for key indicators such as suspended solids.

- **External Laboratory Analysis:** On a periodic basis (monthly or quarterly), samples are sent to a UKAS ISO/IEC 17025 accredited laboratory for more comprehensive analysis.
- **System Evaluation:** The results from all sampling are regularly analysed to evaluate the performance of the water treatment system and identify any trends.

2.3 Effluent Discharge Characteristics

The effluent discharged to the sewer (once consent is obtained) will have the following target characteristics:

| Parameter | Target Value |
|-------------------|----------------------------------|
| pH | 6 – 8 |
| Temperature | 20 – 30°C |
| Conductivity | 2 – 8 mS |
| Settleable solids | Below 10 ml/l |
| Max Discharge | 48 m ³ per 24 hours |
| Average Flow | 1 – 2 m ³ /h per line |

Flow is regulated by flow regulation valves and flowmeters to a maximum of 20m³/h (5.56l/s).

2.4 Monitoring Frequency and Parameters

| Monitoring Event | Frequency | Parameters Checked (On-site) | Notes |
|---------------------|---------------------|------------------------------|--|
| Routine In-Process | Daily | pH | Conducted by trained site operatives to ensure the treatment system is functioning correctly. |
| | Weekly | Suspended Solids | |
| External Compliance | Monthly / Quarterly | Full suite as required | Samples sent to a UKAS accredited laboratory for comprehensive analysis to confirm ongoing compliance and system efficiency. |

2.5 Record Keeping and Reporting

Thorough and accurate records of all monitoring activities, including on-site checks and external laboratory results, are maintained in the site office. These records are available for review during internal audits and regulatory inspections. Reports are submitted to the water company as required by any discharge consent.

3.0 MAINTENANCE AND CONTINGENCY

Proactive maintenance and clear contingency plans are in place to ensure the integrity of the processing plant and to manage any potential incidents.

3.1 Inspections and Maintenance

A planned maintenance programme is in place for all plant and equipment, including the drainage infrastructure.

- **Daily Inspections:** The Site Manager conducts daily visual inspections of the plant and drainage systems.
- **Weekly Inspections:** The technically competent COTC holder carries out a detailed site inspection weekly, with findings recorded on an inspection sheet.
- **Repairs:** Any damage or faults identified are reported and repaired within set timescales. For drainage systems, the target repair time is within 7 days.

3.2 Contingency for Leaks and Spills

In the event of a leak or spillage of wash water or other liquids, site staff will follow established contingency plans.

1. **Cease Operations:** The source of the leak/spill will be isolated, and relevant plant operations will be stopped.
2. **Containment:** The spill will be contained using spill kits located strategically around the site. Drains in the vicinity will be covered with clay mats to prevent entry into the drainage system. For larger spills, Water Gate barriers will be deployed.
3. **Clean-up:** The spilled material will be cleaned up using appropriate absorbents and equipment.
4. **Reporting:** The incident will be reported to the Site Manager and recorded. The Environmental Management System will be reviewed, and if necessary, updated to prevent a recurrence.

In the event of a major incident the Environment Agency and Anglian Water will be contacted, as per the Accident Management Plan.

All staff receive training on the deployment of spill response equipment and containment barriers.

4.0 REVIEW OF THE PLAN

This Wash Water Plant Management Plan is a live document. It will be reviewed annually by site management or in response to any of the following:

- A significant change in site operations.
- A pollution incident, leak, or spill.
- A change in relevant legislation or guidance.
- A request from the Environment Agency.

Any changes to the system will be recorded, and relevant staff will receive updated training through toolbox talks to ensure they are aware of the new procedures.