

Peterborough Metal Recycling T/a BW Riddle

South Fen Road, Bourne PE10 0DN

Variation of Environmental Permit EPR/FB3607HE Non-technical Summary (NTS)

May 2023

Prepared by:
Mayer Environmental Ltd
Transport Avenue
Brentford
Middlesex
TW8 9HA

CONTENTS

1	OVERVIEW	3
1.1	Site overview	3
1.2	Current Environmental Permit	3
2	PROPOSED CHANGES	3
2.1	Increase in waste acceptance for metal shredding.....	3
2.2	Application Forms	4
3	APPLICATION CONTEXT	5
3.1	Pre-Application.....	5
3.2	Fire Prevention Plan	5
4	ABILITY AS AN OPERATOR	5
4.1	Environmental Management System (EMS)	5
4.2	Working Practices.....	5
4.2.1	Maintenance and Inspection Programmes	5
4.2.2	Housekeeping Procedures	6
4.3	Site Infrastructure and Drainage	6
4.4	Staff Training	6
4.5	Waste Procedure.....	7
4.5.1	Pre-Acceptance	7
4.5.2	Acceptance	7
4.5.3	Rejection and Quarantining of Waste	8
4.5.4	Treatment Process	9
4.6	Handling and Storage of Residual Waste	10
4.6.1	Lead Acid Batteries	11
4.7	Emissions to Air, Land and Water	11
4.7.1	Point Source Emissions to Air	11
4.7.2	Dust	11
4.7.3	Noise and Vibration	11
4.7.4	Odour	12
4.7.5	Ground and Surface water	12
4.7.6	Land	12
4.7.7	Litter and Pests	12

1 OVERVIEW

1.1 Site overview

Peterborough Metal Recycling Ltd (PMR) (trading as BW Riddle) operates a metal recycling facility at South Fen Road, Bourne, which includes two metal shredders. The operations are authorised under a single permit which was originally issued on 05/11/1992 in the name of BW Riddle, JE Riddle and CB Riddle, and varied on 27/02/17 (as permit EPR/FB3607HE) to reflect the inclusion of metal shredders within the Industrial Emissions Directive. The permit was transferred to Peterborough Metal Recycling Ltd on 24/10/2017. The primary activity is shredding non-hazardous metal in the two large metal shredders on site.

The site is accessible via South Fen Road, Bourne, Lincolnshire and the secure boundary encloses an area of approximately 4.15 hectares. The national survey grid reference to the entrance of the site is TF 14426 18757.

**** Please note that Peterborough Metal Recycling have recently submitted an application to the Environment Agency for an administrative variation to their Environmental Permit (EPR/FB3607HE) to change the site name, registered name and registered office address. This minor variation application has been completed based on information within the current permit.**

1.2 Current Environmental Permit

The bespoke Environmental Permit EPR/FB3607HE, authorises the recovery of metals (including from WEEE and depolluted ELVs). The site treats the listed wastes by sorting, dismantling, separation, shredding, screening, grading, baling, shearing, compacting, crushing, granulation, repair or refurbishment or cutting for recovery. Currently, the site is authorised to accept a maximum of 120,000 tonnes of waste per year destined for metal shredding, and 30,000 tonnes per year destined for the ELV, WEEE and metal recycling activities combined, although the site no longer accepts WEEE.

2 PROPOSED CHANGES

2.1 Increase in waste acceptance for metal shredding

Within the current permit, Table S2.4 '*Permitted Waste types and quantities for Metal Recycling*' states that the total quantity of waste accepted at site for activities A1 and A2 shall not exceed 120,000 tonnes a year.

Activities A1 and A2 are the stationary technical units of the metal shredding installation and detailed in Table S1.1 '*Activities*' as '*S5.4 A(1) (b) (iv) Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving*

treatment in shredders of metal waste, including waste electrical and electronic equipment and end-of-life vehicles and their components.'

The sole purpose of this variation is to increase the total quantity of waste accepted on site for the metal shredding activity from 120,000 tonnes per year to 180,000 tonnes per year.

There are to be no changes to waste types, permit boundary, activities or anything else within the permit at this time.

To confirm, the increase in annual acceptance covers the same EWC codes as currently accepted at the site and PMR have sufficient operational control, are not adding operational changes (Section 2.2), have a Technically Competent Manager (Section 4.4) and trained staff completing treatment operational processing (Sections 4.4 and 4.5), this demonstrates no increased environmental risk by increasing the amount of waste accepted at the site.

An updated environmental risk assessment has been provided as part of this application. This environmental risk assessment now also considers the risk posed to the PMR metal recycling site by a changing climate.

2.2 Application Forms

To confirm, this permit variation is **NOT** seeking changes to any of the following:

- Variation in the nature of the waste streams PMR is authorised to accept (see Section 2.1 above).
- Storage tonnage limit.
- New waste operations (R and D Codes) PMR are authorised to complete.
- Permit consolidation or modernisation.
- Expansion of the permitted area (hence no site condition report has been provided).
- Acceptance of wastes which are solely or mainly of dusts, powders or loose fibres or in sludge or liquid form.

As such, the application forms accompanying this Non-Technical Summary have been completed accordingly.

3 APPLICATION CONTEXT

3.1 Pre-Application

PMR have had frequent previous communications with the Environment Agency regarding the site's Fire Prevention Plan (FPP) (which was approved by the EA on 4th January 2023) in recent years but it was not deemed necessary to seek pre-application advice specifically for this minor variation to increase acceptance limits.

3.2 Fire Prevention Plan

The site's FPP was approved by the EA on 4th January 2023 and the increase in tonnages accepted onto the site for metal shredding will not alter anything specified in the FPP apart from the site layout.. The site is ample size to accommodate the extra additional waste whilst obeying all FPP Guidance without increasing storage time or pile size. The variation concerns the annual throughput only and does not alter the storage quantities or durations. Therefore, this variation does not increase the fire risk of the site and so a revised Fire Prevention Plan has not been provided.

4 ABILITY AS AN OPERATOR

4.1 Environmental Management System (EMS)

PMR have a written EMS consisting of procedures, organisational policy, risk assessment as well as other documents associated with the Environmental Permit and Duty of Care. The EMS is maintained by Site Management and reviewed annually. A new procedure, and safe working practices are developed for any new operational function on site, with input from site staff. All employees are briefed and sign training records to confirm they have understood the new procedure and/or safe working practice. The EMS is currently being updated to address the Appropriate Measures for metal shredding sites.

4.2 Working Practices

4.2.1 Maintenance and Inspection Programmes

PMR adheres to the inspection, maintenance and service schedules recommended by plant and equipment manufacturers as well as those required by legislation (e.g. LOLER). Aside from this, PMR completes pre-use checks on mobile plant and machinery as well as preventative maintenance on all equipment and environmental protection equipment periodically. Processing plant, perimeter fencing and gates are inspected weekly using the Site Inspection Sheet.

Any issues detected during inspections are highlighted to Site Management and recorded in the site diary. A competent contractor remediates the issue when required.

4.2.2 Housekeeping Procedures

The site maintains a high level of housekeeping through a combination of hand sweeping and the use of a material handler with a brush attachment. Operatives regularly check the tidiness of the site through daily site checks and audits and significant incidents of non-compliance are recorded in the site diary.

4.3 Site Infrastructure and Drainage

The site has impermeable concrete surface and a sealed drainage system, including interceptors and water pumps. There is no water discharged from site. The impermeable concrete surface is inspected daily. When required, the interceptors are emptied by a licenced contractor. The interceptors act as a sealed sump and do not discharge waste water.

Should damage to the concrete be detected, repairs will be completed as soon as practically possible.

4.4 Staff Training

Technical Competency:

A nominated technically competent manager holds the relevant WAMITAB Operators Competence Certificate for the current operations. This variation is not seeking to vary any operations so the WAMITAB certificates have not been provided in this application.

All PMR employees:

Every employee receives training including;

- Site induction, role specific training and the equipment needed to fulfil their role (and the potential risks attached to operating the plant under their control).
- General operations/ safe working procedures/emergency operating procedures/licensing and legal requirements/ material waste acceptance/ environmental awareness.

Copies of training records are signed by employees and retained on site.

Staff are aware of their responsibilities with respect to reporting potential non-compliances, release of accidental emissions and breaches of permit conditions. Senior managers have a procedure in place for reporting to the Environment Agency as required.

No site operations will take place unless there is sufficient, trained and competent staff on site.

Contractors:

All contractors are given a full site induction and work under a Permit to Work when attending site. The induction includes outlining all hazards, risk and traffic management as well as highlighting the location of welfare facilities and assembly points.

4.5 Waste Procedure

4.5.1 Pre-Acceptance

All new Suppliers are subject to due diligence checks by PMR prior to any waste being accepted and must provide the following information in order for an account to be set up.

- Photographic ID
- Address ID
- Banking details
- Company VAT details (if applicable)
- Appropriate licences and certificates such as VAT certificate, Waste Carrier Licence, Scrap Metal Dealer Licence (if applicable)
- In accordance with the Scrap Metal Dealers Act 2013, drivers delivering waste on behalf of a supplier are also required to provide photographic ID. All relevant supplier information, licences and authorisations with respect to the Duty of Care are kept on file for all suppliers.

PMR to assess and confirm that the waste is technically and legally suitable for the facility and can be stored and treated safely, without unnecessary accumulation.

PMR consider the source and nature of the waste, its hazardous properties, potential risks to process safety, occupational safety and the environment, deflagration and fire risk.

PMR will verify the pre-acceptance information by contacting or visiting the producer and dealing with staff directly involved in waste production if required to fully characterise the waste.

For 'gate trade', which accounts for only ~5% of all wastes received on site and typically only consists of ELVs, mixed light iron or non-ferrous, PMR make sure to implement their detailed and strict waste acceptance procedures, this is considered adequate for confirming safe and legal acceptance.

4.5.2 Acceptance

Wastes may be received at the site in two ways, either directly from a Supplier or Merchant or delivered to the site using company vehicles following collection from a Supplier's premises. All incoming waste loads are transported by registered waste carriers and have the appropriate waste transfer documentation in place. All loads are weighed in at the weighbridge on arrival and details of the date, time, waste description, European Waste Catalogue (EWC) code, weight, source, carrier and any other relevant information is recorded, particularly the potential to contain POPs.

A visual check of the waste, assisted by CCTV, is completed whilst the vehicle is still on the weighbridge. PMR ensures the description on the Waste Transfer Note matches the visual appearance of the waste before booking in the load. This ensures Duty of Care is being

practiced by PMR. A copy of the Waste Transfer Note is retained by the Supplier when collected. Company drivers collecting from a Supplier will also leave the Supplier a copy of a Collection Note which also contains information relevant to the Duty of Care.

The weighbridge is provided with radiation detectors and all loads are checked for radiation by passing through a radiation detector which is equipped with alarms. Non-conforming loads or part of loads will be rejected at that point and Environment Agency will be notified.

Drivers are instructed to proceed to the off-loading area where the load is inspected by a trained operative whilst it remains on the vehicle. If the load appears to be acceptable the driver is asked to take the material to the appropriate stockpile for unloading. The Site Operative then confirms the grade and type of material within the load and informs the weighbridge operator of the types and grade of metals. All reception areas have impermeable concrete surfacing within a sealed drainage system.

A 360° crane is situated adjacent to each of the metal shredders. The cranes feed the scrap metal into the metal shredder. When the waste is fed into the shredder, the crane operator works on a 'three drop process'. This process helps to ensure that no non-conforming wastes are fed into the shredder as well as maintaining a consistent feed rate into the plant.

All staff are appropriately trained in receiving and inspecting waste.

4.5.3 Rejection and Quarantining of Waste

If the load is unacceptable it will be rejected and returned to the customer. In situations where the load has been miscoded or misdescribed, the waste may still be suitable for acceptance. In these situations, the waste producer will be contacted to inform them of the error and will be recharged accordingly.

In the unlikely event that any gas cylinders are discovered during the inspection process, they will be removed from the load and taken to the gas cylinder cage for removal from site. The gas cylinder supplier will be contacted and collection will be arranged to repatriate all recovered cylinders.

Hand-picked, minor non-conforming material (i.e. non-metallics) is deposited in the quarantine skip for disposal to landfill.

Major non-conformances within the load, i.e. gross contamination by oils etc., metal contaminated with plastic, oil etc., odorous or burnt/charred or obviously exhibiting a 'hot spot' (a significantly elevated temperature beyond that of surrounding material in the load) will result in the load being downgraded, quarantined or rejected as appropriate.

If the material contains a size range that will allow temperature monitoring, then the temperature reading will be taken and recorded on the appropriate form in line with the approved Fire Prevention Plan.

All relevant licences and authorisations with respect to the Duty of Care are kept on file for all Suppliers.

4.5.4 Treatment Process

PMR operates two metal shredders (or fragmentisers), one used to process mixed light iron, and the other used to process aluminium and engines. Both are 1600 Hp Lynx shredders with a similar configuration. Both shredders are also 'damp' shredders, whereby water is injected in to the mill chamber under carefully controlled conditions so that it does not drench the chamber or the fragmented materials or affect flow from the chamber. The quantity of water added is controlled to ensure it turns to vapour within the mill, producing a damp atmosphere. This is used to control the mill temperature, suppress dusts and vapours and to suppress the generation of potentially flammable atmospheres within the chamber. The level of water is also controlled to ensure that excess water does not form on or around the fragmentiser area.

Material is fed by a material handler directly into the infeed chute. The material then drops down a chute and feed rollers at the bottom of the chute compact and push the scrap materials in to the mill chamber.

The operator controls the speed of the top roller to determine how quickly the material enters the shredding chamber or mill.

The loading of the shredder is arguably the most important aspect of the shredding operation, as it controls not only the material input density, but the mixture, feed rate (depth of scrap) and sorting of the infeed. Loading is normally undertaken to ensure the mill is fed at a constant rate. This ensures the chamber is full, allowing the scrap to shred, fragment and abrade.

The fragmentiser operator works in an elevated cabin above the fragmentiser inlet 'mouth'. The cabin allows for the full vision of the mill inlet pile, the inlet excavator and operator. The operator views directly into the fragmentiser mouth checking for contaminants entering the machine and communicates any issues to the inlet excavator operator.

The cabin allows for observation of the internal workings of the machine, enabling them to stop the fragmentiser working immediately in case of problems. Following the waste being fed into the fragmentiser mouth, the waste passes into a series of toothed feed rollers which open and close pulling material into the hammer mill. There is a controlled water spray system removing any dust from being released from the mill during the opening and closing process.

Once through the rollers, the operator has no control over the scrap infeed. The mill chamber contains a heavy rotor (with rows of free pivoted hammers) which revolves at high speed (several rotations per second), the hammers 'grab' the scrap pulling it into the mill, firstly shredding it against an anvil, and then fragmentising it through abrasion and attrition within the mill. The mill is designed to run full so that the chamber is under pressure from the scrap within it. This loading has several effects: it assists with the attrition and fragmentisation of the scrap; and it fills the void space within the mill, helping the materials to be pushed through exit grids.

The shredding chamber is mounted on springs and rubber dampers to reduce vibration and potential damage due to a flame event.

Subsequent to the fragmentising, and once the materials reach a small enough size, they are ejected through grids in the mill chamber at the top and bottom of the mill. These mixed fragmented materials then pass on to the downstream separation processes. The mill is provided with a 'reject door' which allows any large heavy items interfering with the shredding process to be ejected.

4.6 Handling and Storage of Residual Waste

Post-shredding, the fragmented material passes over 2 magnet drums to remove ferrous metal. The ferrous metal then passes over 2 picking lines where copper refines and non-metallic wastes are removed by hand and placed into skips. The fragmentised ferrous is delivered via conveyor onto the ferrous stockpile. The remaining shredded material passes through an overband magnet to remove any ferrous attached to non-ferrous (ferrous/non-ferrous mix). The remaining shredded non-ferrous material is fed through a sizing trommel to create three fractions (small, medium and large), each of which passes through an Eddy Current Separator (ECS). The ECS process splits the small fraction into trommel fines and small Zorba (cast aluminium), the medium fraction into medium Zorba and medium trommel waste, and the large fraction into large Zorba and large trommel waste. Both the medium and large Zorba pass through a picking line to remove circuit board and non-metallic wastes, and both the medium and large trommel waste streams are further processed through a wash plant and dense media separation plant (DMSP).

The wash plant initially removes non-metallics, aluminium, copper and brass through wash drums and eddy current separators. The DMSP then processes the remaining residue to remove stainless steel, cable and any remaining copper and brass. The DMSP uses magnetite to separate out the different materials by density, and collects and compresses sediment through sediment traps and a filter press. The recyclable materials are sent for further recycling and the remaining residue, including the filter cake, is sent for disposal to landfill.

All residues are stored in accordance with the EA approved FPP.

4.6.1 Lead Acid Batteries

Lead acid batteries will be stored apart from other types of batteries and all other wastes. PMR does not routinely encounter Ni-NH or li-ion batteries from electric vehicles but if any are discovered they will be isolated and stored separately in weather and acid proof plastic containers in shaded, cool areas of the site.

All lead acid batteries are first checked for damage and then if safe to do so, are stored upright and in accordance with the requirements of the Local Authorities (from where most batteries are collected) and the downstream receiving sites, therefore ensuring there is no way terminals can touch each other. All batteries are stored in weather and acid proof plastic containers but PMR do not routinely tape off the battery terminals as it is not considered necessary to prevent short circuiting and introduces contamination into the IBC. Any damaged batteries are isolated and stored separately.

4.7 Emissions to Air, Land and Water

4.7.1 Point Source Emissions to Air

There is no point source emission to air from the permitted facility.

4.7.2 Dust

Fugitive emissions from the shredding process are minimised through a number of measures, starting with the controlled selection of material suitable for shredding (excluding excessively dusty wastes), the blending of civic amenity scrap with general light iron to maximum the efficiency of the shredder, a controlled water spray system removing any dust from being released from the mill during the opening and closing process, and the injection of water into the shredding chamber.

The site maintains a high level of housekeeping through a combination of hand sweeping and the use of a material handler with a brush attachment. Residues collected during cleaning are contained and appropriately disposed of. Operatives regularly check the tidiness of the site through daily site checks and audits and significant incidents of non-compliance are recorded in the site diary. These measures are satisfactory and a specific dust management plan is not required. More so given that PMR always use appropriate construction material, lining or coating equipment with corrosion inhibitors and regularly inspect and maintain plant.

Diffuse dust and particulates emission sources are further reduced by limiting the drop height of material, using high integrity components (for example, seals or gaskets) and having solid site boundaries and bay walls to reduce wind-induced dust.

4.7.3 Noise and Vibration

An increase in noise or a change in the type of noise may also indicate a maintenance issue with the shredder or associated plant. Ongoing noise assessments are made by the operators and any abnormal noise emissions are recorded in the site diary and investigated.

Noise emissions are minimised through daily maintenance of the shredder, including a lubrication and greasing schedule, from the diesel engines powering the two shredders by enclosure of each within a shed, and from the two engines powering the baler/shear by enclosure within the plant. Regular servicing of all diesel engines and the two diesel generators powering the two wash plants also contribute to minimising noise emissions from the site.

General site procedures employed to reduce noise emissions include maximum loading heights and placing rather than dropping metal grades, daily assessment of noise and vibration by PMR employees, minimum handling of wastes, and strict adherence to operating hours. The placement of shipping containers around the perimeter of the site reduce the impact of noise on off-site receptors.

4.7.4 Odour

The waste types accepted the facility and the authorised operations are not typically associated with odour emissions. The potential for odour emissions is minimised by strictly enforced waste acceptance procedures.

4.7.5 Ground and Surface water

There are no point source emissions to groundwater or surface water from the permitted facility.

4.7.6 Land

There is no point source emission to land from the permitted facility.

4.7.7 Litter and Pests

The site is unlikely to generate litter from operations, due to nature of accepted waste streams and appropriate waste storage, and secure, high site boundary. Litter checks are completed at the end of operating hours to minimise risk of escape. Similarly, the site is unlikely to attract pests/vermin given the rural location and nature of wastes accepted and secure perimeter boundary / fencing.