Your reference: EPR/HB3604TQ/T001

23rd October 2020

Gemma Dixon
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emailed to: gemma.dixon@environment-agency.gov.uk

Dear Gemma

EMR Edmonton - IED Permit (EPR/HB3604TQ/T001) – Schedule 1 Activity Redefinition and Improvement Condition 4 Applicability

Site and Permit Context

The IED above Permit was issued to Metal & Waste Recycling Ltd (MWR) on 29/01/2016. As per Table S1.1 in the Permit, the site is authorised to complete various metal recycling operations, including use of a Granulator for recycling cables, as well as being an Authorised Treatment Facility (ATF) for End-of-life Vehicles (ELVs) and Waste Electronical and Electronic Equipment (WEEE).

As detailed in Table S1.1 of the IED Permit, the site is subject to IED requirements through its definition of the Granulator as a Shredder under Section 5.4 Part A(1) (b)(iv) of the Environmental Permitting Regulations 2016. Section 5.4 Part A(1) (b)(iv) states: *"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 IED Permit outlines 5 Improvement Conditions (ICs) in relation to site operations, which are summarised below.

Improvement Condition	Improvement Condition Requirement Summary
1	Written management system in accordance with Best Available Techniques (BAT)
2	Proposals for the management of dust and particulates associated with granulation outputs and residues
3	Fire Prevention Plan
4	Stack emissions from A1
5	Ambient air emissions to determine the size and distribution of particulate matter (fractions within the PM_{10} and $PM_{2.5}$ ranges)

European Metal Recycling Limited (EMR) purchased MWR Edmonton as part of a general acquisition of MWR depots. The IED Permit was transferred and issued to EMR on 28th August 2019. Upon transfer of the IED Permit, EMR started reviewing work completed on the ICs by MWR as well as continuing to work towards satisfying any outstanding IC requirements.

This letter reviews the definitions of Granulators and Shredders in relation to the fixed plant at EMR Edmonton and IED Permit Schedule 1 Activities. With this context, the letter will review requirements for Improvement Condition 4 and its applicability to EMR Edmonton.

Granulators and Shredders

A DEFRA-funded project (*"An Integrated Approach to Electronic Waste (WEEE) Recycling"* authored by C-Tech Innovation Ltd, January 2007*)* differentiates between the processes of granulation and shredding:

"Granulating is the mechanical processing of production scrap, post-consumer plastic packaging, industrial parts, or other materials into fine particles... Granulators consist of a feed hopper, cutting chamber, classifying screen, and rotating knives that work in concert with stationary-bed knives to reduce the plastic scrap until it is small enough to pass through the classifying screen. The resulting particles, called regrind, can vary in size from 3 mm to 20 mm"

"Shredding/Fragmenting is a process in which products are fed into a shredder which fragments, grinds, rips or tears the product into pieces which are then sorted into different materials streams and recyclable or valuable materials extracted"

The operational descriptions of granulation and shredding based on manufacturers have been summarised below. As can be seen, there are operational differences between the processes so the terms cannot be interchanged for operational definition.

Granulators are commonly located within buildings. They operate blades at high speed, high horsepower with low torque (rotational force) using rotor knives before passing through grids and out of the cutting chamber. Resultant outputs are granular and uniform (less than 10mm in diameter) in size and have visual similarity to virgin Copper. Furthermore, optimal Granulator operations require lower density material fed by hand, conveyor or feeding mechanism. Based on this description, granulation can be defined as a cutting process to generate granules opposed to a shredding process meaning that minimal dust and/or particulates are generated.

Conversely, Shredders are commonly located outside and operate at lower speeds than the Granulator with a higher torques. They use heavy rotors, anvils, abrasion and attrition before to ejection through grids in the shredding chamber mill. Shredder outputs are often subject to downstream processing to recover recyclable materials, including trommels, picking stations, magnets and Eddy Current Separators. Resultant outputs vary in size, ranging from Shredder Residue, Shredder Non-Ferrous and shredded metal as well as dust and particulates. Furthermore, optimal Shredder operations require high density material which is fed regularly and steadily by hand, conveyor or feeding mechanism.

	Granulation	Shredding
Location	Commonly situated within buildings	Commonly situated outside and not within buildings
Planning Permission Requirements	Does not typically require planning permission	Requires planning permission
Plant size	Occupies a small footprint	Occupies a large footprint
Drainage Requirements	Minimum of concrete pad	Impermeable concrete paving and sealed drainage system
Infeed Material	Lower density material fed by hand, conveyor or feeding mechanism	High density material which is fed regularly and steadily by hand, conveyor or feeding mechanism
Operational Process	Blades and rotor knives	Heavy rotors, anvils, abrasion and attrition. Downstream processing to separate recyclable materials, including trommels, picking stations, magnets and Eddy Current Separators
Resultant outputs	Granular and uniform (less than 10mm in diameter) and have visual similarity to virgin Copper with lower generation of dust and particulate.	Variable in size, ranging from Shredder Residue, Shredder Non-Ferrous and shredded metal as well as the generation of dust and particulates

EMR Edmonton Granulator

The schematic of the Granulator used at EMR Edmonton has been appended to this letter. EMR Edmonton operates a MTB Maxi Granulator SRP 2400-1600 which is fully enclosed within the Granulator building. The Granulator has the following specification:

- Infeed material size: <400mm
- Average feed density: 0.15 – 0.5 tonnes/m^3
- Output material size: <30mm (generally)

The aforementioned specifications are aligned with the definition and manufacturer description of a Granulator opposed to a Shredder.

Below is a summary of the Granulator based on the schematic appended to this letter.

EMR granulate two types of Copper wire on site, namely:

- Plastic coated Copper wire (PCCW) – the plastic remains intact upon infeed and separated from the wire during the granulation process
- Stripped Copper wire – prior to infeed, EMR Edmonton strip Lead sheathing/coating from the Copper wire (to confirm, EMR do not granulate the Lead sheathing/coating)

The aforementioned Copper wires are a low density waste and granulated in batches exclusively. The site does not granulate the different wire types concurrently to allow EMR to modify the grids in the Pre-Granulator and Granulator to maximise Copper yield as well as enhance energy and resource

efficiency (as required by Conditions 1.2 and 1.3 in the IED Permit, BAT 28 and monitored as part of Pollution Inventory Returns) .

The Copper wire (either type) is loaded onto a conveyor belt by a material handler to feed a Pre-Granulator for initial cutting of the infeed material. The feeding of the plant by a material handler allows EMR to regulate/equalise the wire infeed to achieve higher energy and resource efficiency in accordance with BAT.

The Pre-Granulator operates rotor knives at high speed to cut the Copper wire into a smaller size in preparation for more efficient cutting within the Granulator. The Pre-Granulator is fitted with an underlying grid with 12mm holes (to capture any small Copper granules) and a magnet to remove any ferrous contamination. As detailed previously, the former is replaced with grids with alternative hole sizes depending on the type of Copper wire being processed to maximise Copper yield.

The Copper wire is then fed into a Hopper in preparation for funnelling into the Granulator via a covered conveyor belt. The use of a Hopper supports the definition of a Granulator being applied to the fixed plant at EMR Edmonton.

The Granulator operates blades at high speed using rotor knives to further cut the Copper wire. The Granulator is fitted with an underlying grid with 5mm holes (to capture any small Copper granules) and a magnet to remove any further ferrous contamination. Again, the former is replaced with grids with alternative hole sizes depending on the type of Copper wire being processed to maximise Copper yield. Following cutting granulation, the Copper granules are passed over shaker tables to remove any remaining contamination as well as separate the Copper and plastic for bagging. The Copper and plastic are stored in separate bags and not mixed following treatment in the Granulator.

The Pre-Granulator and Granulator have a combined extraction system operated under negative pressure to prevent dust and particulates emissions to air. The Pre-Granulator has 3 outlets and the Granulator has 2 outlets which extract dust and particulates from the plant. The extracted dust and particulates are funnelled into 2 cyclones to remove heavier fractions followed by a bag filter. All matter is then funnelled into a machine which compacts the dust and particulates into briquettes for effective disposal at a suitably licenced facility. All dust and particulate briquettes are stored within the Granulator building to minimise impact on receptors. To confirm, there is *no emission point* from either cyclone, bag filter or wider extraction system, with any dust and particulates generated used to create briquettes. This is reflected in the accompanying schematic. As such, there are *no dust or particulate emissions* to the atmosphere associated with Copper wire granulation and, therefore, this activity has a low environmental risk.

The collection and containment of dust and particulate emissions from granulation complies with Best Available Technique (BAT) 14(d).

Below is a summary table outlining which Granulator operations comply with relevant Best Available Techniques (BAT) in Decision Document 2018/1147 – while the aforementioned document refers to some BAT being applicable to mechanical treatment in Shredders, EMR have determined that these remain applicable to the Granulator due to it completing mechanical treatment (i.e. cutting of cable). This means EMR Edmonton are complying with BAT beyond its required scope.

BAT Conclusion References	
2(a)	5
2(b)	14(a)
2(c)	14(b)
2(d)	14(c)
2(e)	14(d)
2(f)	14(f)
2(g)	14(g)
4(a)	18
4(b)	23
4(c)	25
4(d)	28

Based on the aforementioned DEFRA-approved definitions, descriptions of the operational plant from manufacturers, site-specific information and appended schematic, the term "Shredder" should not be used to define the Granulator at EMR Edmonton. The Granulator and its operation should be defined as a separate, distinct activity.

We ask the Environment Agency to review and confirm the definition of the Granulator at EMR Edmonton based on the information provided above.

Schedule 1 Activity Operations

To reiterate, the Granulator is currently regulated as Schedule 1 Activity under Section 5.4 Part A(1) (b)(iv), which states: "*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".*

Aside from its redefinition as a Granulator, in August 2020, the Environment Agency issued a letter outlining the reclassification of WEEE in relation to Persistent Organic Pollutants (POPs) – this letter has been appended to this letter. Based on Environment Agency guidance (https://www.gov.uk/guidance/classify-some-waste-electrical-devices-components-and-wastes-from-their-treatment), PCCW is now defined as hazardous waste with EWC Code 16 02 15*. The reclassification of the wire as hazardous means that regulation under Section 5.4 Part A(1) (b)(iv) is no longer applicable for PCCW.

Based on the lack of applicability, we propose the granulation of hazardous cable is regulated as a Schedule 1 Activity under Section 5.3 Part A(1) (a)(ii), which states: *"Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment".* To confirm, this Schedule 1 Activity is applicable to the granulation of PCCW exclusively.

We ask the Environment Agency to review the applicability of the Schedule 1 Activity specified in the Permit for the Granulator and agree to apply Section 5.3 Part A(1) (a)(ii) instead for future regulation of the site on a local level. If agreeable to the Environment Agency, we propose including the replacement of the Schedule 1 Activity as part of the next Permit variation for the site. This is a pragmatic and fair approach.

As detailed in the 'EMR Edmonton Granulator' section, the site also granulates Copper wire which has been stripped of Lead sheathing/coating onsite prior to recovery. The aforementioned Lead stripping means that EMR do not granulate the Lead sheathing/coating (which is prohibited under any circumstance), and that this Granulator infeed material is non-hazardous waste. The Granulator is currently operating at approximately 38 tonnes per day (joint tonnage for hazardous and non-hazardous wire) which is below the 75 tonne non-hazardous threshold outlined in Section 5.4 Part A(1) (b)(iv). This further supports that the Schedule 1 Activity referenced in the Permit is not applicable to the EMR Edmonton Granulator.

Calculations have shown that it would be impossible for the granulator to process anywhere near the 75 tonne threshold and that the maximum quantity that could ever be reached by this granulator is about 45 tonnes per day (factoring the capability of the machine and the requisite operational hours as laid down by planning permission that optimum processing could take place); additionally EMR have no desire to process more than 45 tonnes per day.

The stripping of the Lead sheathing/coating is a cutting and separation activity completed as a waste operation under A10: Metal Recycling. Due to the scale of the operation, we propose that the granulation of the non-hazardous Copper wire is also completed as a waste operation under A10: Metal Recycling. Based on the environmental risk posed by the operation, this would be a fair and pragmatic approach as well as facilitate easier regulation for the Environment Agency.

A10 Metal Recycling	**R13**: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced) **R4:** Recycling/ reclamation of metals and metal compounds	From receipt of waste to treatment and storage of recovered non-hazardous waste. Treatment operations shall be limited to: • Treatment consisting only of sorting, separation, grading, shearing, bailing, compaction, crushing or cutting of non-hazardous waste into different components for recovery.

In relation to the redefinition of the Granulator, we propose that the granulation of non-hazardous Copper wire (stripped of Lead sheathing/coating) is regulated as a waste operation under A10: Metal Recycling.

Improvement Condition 4

BAT Conclusion document 2018/1147 defines a 'channelled emission' as *"emissions of pollutants into the environment through any kind of duct, pipe, stack etc. This includes emissions from open-top filters"*. In accordance with IC4, EMR Edmonton are required to monitor the channelled emissions from the Granulator as seen below.

IC4	The operator shall submit a written plan to the Environment Agency for approval that includes: (a) proposals to undertake representative monitoring of the air discharged from point A1 including the parameters to be monitored, frequencies of monitoring and methods to be used; (b) confirmation that a written report will be submitted to the Environment Agency for approval that includes: (i) the results of an assessment of the impact of the emission to air from the site using the Environment Agency's 'H1 Environmental Risk Assessment' tool (or equivalent as agreed with the Environment Agency) based on the parameters monitored in (a) above; and (ii) proposals for appropriate measures to mitigate the impact of the emission where the assessment determines they are significant, including emissions limits and monitoring and dates for implementation of individual measures; and (iii) details of appropriate measures for the operation and maintenance of the abatement system to ensure that where emission limits are proposed they are met or, where emission limits are not required, emissions remain insignificant. The operator shall carry out the monitoring in accordance with the Environment Agency's written approval.

This IC relates the channelled emission monitoring requirements outlined in BAT 8 requirement for the *"mechanical treatment in shredders of metal waste"* regarding parameters and frequency. This letter and appended schematic has demonstrated that the plant at EMR Edmonton is a Granulator and not a Shredder so the inclusion of this generic IC is likely to be related to its definition as a Shredder and not based on accurate site operations nor definitions for such fixed plant. As such, EMR Edmonton should not be liable to complete monitoring required under the *"mechanical treatment in shredders of metal waste".*

Furthermore, the inspection of the plant (including its operations and dust extraction system) as well as this letter and appended schematic, demonstrates that the Granulator does not have a channelled emission point nor appropriate measurement port/s or measurement point/s (required by *M1 – Sampling Requirements for Stack Emission Monitoring)* to complete the monitoring required under IC4. As described, the Granulator is inside the building and has a dust extraction system (comprising of 2 cyclones and bag filter which results in negative pressure) resulting in any dust or particulates generated being collected and contained as briquettes which are stored within the Granulator building – this allows EMR Edmonton to comply with BAT 14(d). As there is no channelled emission due to the dust extraction system and compliance with BAT, the site cannot complete IC4.

The redefinition of the Granulator as a Schedule 1 Activity under Section 5.3 Part A(1) (a)(ii) means that the site should be regulated and subject to the same requirements as other operations regulated under Section 5.3 Part A(1) (a)(ii). Waste operations regulated under the aforementioned Schedule 1 Activity reference tend to be enclosed within a building and have a dust extraction system (including local extraction ventilation) to prevent dust and/or particulate emission to air so are not subject to monitoring requirements detailed in IC4. Given that the Granulator at EMR Edmonton is enclosed within a building (and no emission point) and has a dust extraction system to

prevent emission of dust and/or particulates, it should also be exempt from such monitoring requirement.

We ask the Environment Agency to review the requirement for EMR Edmonton to complete channelled emission monitoring referenced in Improvement Condition 4 in relation to its redefinition as a Granulator, infrastructure and consistency with other as Schedule 1 Activities regulated under Section 5.3 Part A(1) (a)(ii).

Summary

This letter outlined general definitions of Granulators and Shredders to demonstrate that the fixed plant at EMR Edmonton is a Granulator, and not a Shredder. As such, it should be redefined and regulated by the Environment Agency accordingly.

As the Granulator processes hazardous and non-hazardous cables, these operations should be regulated independently as they are not granulated concurrently. We propose that the Environment Agency apply Section 5.3 Part A(1) (a)(ii) to regulate the granulation of hazardous PCCW as this operation would remain under the scope of the IED due to processed tonnages and hazardous waste storage. We propose that the Environment Agency agree this on a local level and replacement of the Schedule 1 Activity as part of the next Permit variation for the site.

Conversely, we propose that the granulation of non-hazardous cable (due to the stripping of Lead sheathing/coating prior to granulation) to be regulated as part of the 'A10: Metal Recycling' waste operation already referenced in the Permit.

We request that the Environment Agency to review the requirement for EMR Edmonton to complete channelled emission monitoring referenced in Improvement Condition 4 in relation to its redefinition as a Granulator, infrastructure and consistency with other as Schedule 1 Activities regulated under Section 5.3 Part A(1) (a)(ii).

We hope you agree that the outlined proposals will allow EMR Edmonton to continue operating efficiently and in accordance with relevant BAT Conclusion, while allowing the Environment Agency to regulate effectively and consistently.

If you wish to further discuss the outlined proposals, please do not hesitate to contact me.

Yours sincerely

Victoria Halford

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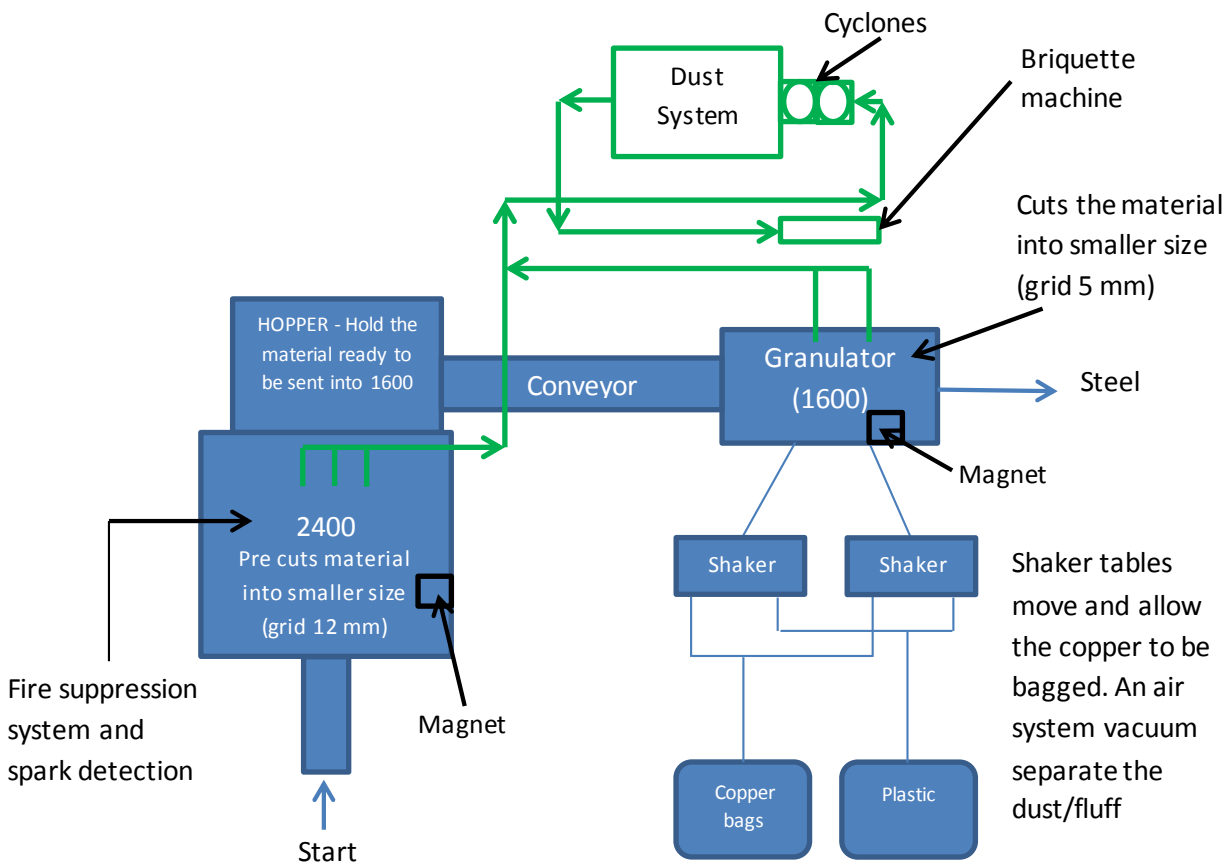
Cyclones
Dust System
Briquette machine
Cuts the material into smaller size (grid 5 mm)
HOPPER - Hold the material ready to be sent into 1600
Conveyor
Granulator (1600)
Steel
Magnet
2400
Pre cuts material into smaller size (grid 12 mm)
Shaker
Shaker
Shaker tables move and allow the copper to be bagged. An air system vacuum separate the dust/fluff
Fire suppression system and spark detection
Magnet
Copper bags
Plastic
Start

Dear Sir or Madam

Waste Electrical and Electronic Equipment (WEEE) – August 2020 Update

Ensure you comply with the legal requirements for Persistent Organic Pollutants, Duty of Care, Hazardous Waste and International Waste Shipments

We are sending this letter because you manage waste electrical and electronic equipment (WEEE).

In September 2019 we wrote to many businesses to provide advice on waste management controls and the associated compliance for display devices, small mixed WEEE, and plastic containing wastes arising from their treatment.

This second letter provides additional advice on:

- All other types of WEEE
- Waste containing plastics derived from treatment of WEEE, and
- printed circuit boards, cable, and plastic components removed from WEEE

Background

Plastic components, cable, and printed circuit boards found in many categories of WEEE contain high levels of hazardous chemicals and Persistent Organic Pollutants (POPs). The presence of these chemicals significantly affects how compliance with legal requirements that apply to waste electrical devices, their components, and wastes from their treatment will be achieved,

The Industry Council for Electronic Equipment Recycling (ICER), in cooperation with Defra and the Environment Agency, has now published their investigation into the presence of these chemicals in a range of WEEE. This report can be found here:

https://icer.org.uk/research/

Taking account of this investigative study and other information, Government guidance has now been updated and hyperlinks to the relevant pages are provided in the Annex to this letter.

What action should you take?

You must comply with the law.

You have a statutory Duty of Care that applies to waste you produce, transport, receive, treat, broker or deal. Your responsibility does not end when you transfer the waste to someone else. You should make sure that the person you transfer the waste to will manage it appropriately.

You should read the advice we have provided in the Annex to this letter, and the guidance for which links are provided, on:

1. Waste classification and description, including POPs waste status, of
   A. WEEE devices
   B. Components removed from WEEE
   C. Wastes from treatment of WEEE
2. Management of waste containing Persistent Organic Pollutants
3. Hazardous Waste Controls
4. Export of WEEE or its components
5. Reuse of WEEE

You should then review your procedures and make any changes necessary to ensure they are compliant.

Compliance and Enforcement

We recognise that businesses are currently dealing with the impacts of COVID-19 and will take that in to account when reviewing and assessing compliance with the legal requirements alongside the pro-active steps operators have taken to achieve compliance.

We are advising operators, through communications and the revised guidance, to review their procedures and operations to ensure they are compliant. From a regulatory perspective our next step is to start to assess compliance across the WEEE sector and where non compliances are identified to address this.

We collect a range of information on WEEE activities by a number of different pathways. Compliant activities should be visible to us, without us needing to visit sites, so we will be using this information to monitor compliance and inform subsequent interventions.

Our initial compliance assessment focus will be on businesses who mis-describe hazardous and POPs waste, leading to it being subsequently mismanaged and / or exported without notification by them or those they transfer the waste to.

Where we identify non-compliance we will work with operators to bring them into compliance and where necessary take enforcement action. Further information on our approaches to enforcement can be found in our Enforcement and Sanctions policy.

https://www.gov.uk/government/publications/environment-agency-enforcement-and-sanctions-policy/environment-agency-enforcement-and-sanctions-policy

Contacting Us

You should follow the advice given here and refer to gov.uk for further information.

We will continue to work with our key Industry Stakeholders, which includes ICER, the AATF Forum, British Metals Recycling Association (BMRA), WEEE Schemes Forum (WSF), and National Association of Waste Disposal Officers (NAWDO) to help deliver a high level of compliance. If you are a member of one of these bodies, you may wish to seek advice from them and raise any questions through them.

Alternatively if you need additional advice or support on the matters referenced in this letter, and want to contact us, please use the following e-mail address, refer specifically to this letter on WEEE and POPs, and indicate clearly which aspect your question is about.

- international waste shipments
- hazardous waste and waste classification
- persistent organic pollutants and re-use

This will help us respond to your enquiry more quickly.

E-mail: POPsandWEEE@environment-agency.gov.uk

Vernon Smith
Waste and Industry Regulatory Services Manager
Environment Agency, Quadrant Two, 99 Parkway Avenue, Sheffield, S9 4WF

Annex

Section 1A: The classification and description of WEEE devices

You must ensure that your wastes are correctly classified and described.

You must also make the presence of hazardous chemicals and persistent organic pollutants clear in the waste description.

If you receive waste from other people you should also check that it is classified and described correctly.

To enable you to assign a classification code to an item of WEEE the law requires that you first undertake an assessment of the chemicals present. This assessment determines whether you assign a hazardous or non-hazardous code.

The ICER investigation has looked at part of this assessment for you. We can now provide you with updated advice on which classification codes and hazardous or POPs waste status applies to each type of WEEE.

It is important to note that the law does not allow you to assign a non-hazardous code to an item of WEEE without this assessment. In the absence of an assessment a precautionary hazardous waste and POP waste status applies.

If you produce, carry, deal, broker or receive a waste that is classified or described in a manner inconsistent with our advice, you should expect to be asked for the supporting assessment. Checking that the waste you receive is correctly classified is part of your statutory Duty of Care and, where applicable, waste acceptance requirements in your permit.

A summary of the advice available on gov.uk for the different types of WEEE devices is listed below:

https://www.gov.uk/how-to-classify-different-types-of-waste.

https://www.gov.uk/how-to-classify-different-types-of-waste/electronic-and-electrical-equipment

WEEE devices that are **non-hazardous** and **non-POPs** waste

- Large domestic appliances (LDA): white goods (washing machines, tumble driers, dishwashers and cookers). Note that if other category 1 devices are also present see the advice that applies to those below.

WEEE devices that are **hazardous** waste, but **non-POPs** waste

- Fridges, freezers, chillers and air-conditioning units

WEEE devices that are **hazardous** waste and **POPs** waste.

- Small mixed WEEE
- Display devices
- Category 1-7 devices (other than LDA white goods) of a household type, from household or business sources.

WEEE devices that are precautionary **hazardous** and **POPs** waste until the chemistry of their printed circuit boards, plastics and cables is determined and assessed:

- All other devices

https://www.gov.uk/guidance/classify-some-waste-electrical-devices-components-and-wastes-from-their-treatment

Section 1B: The classification and description of components removed from WEEE

You should read the guidance if you remove or separate:

- plastic components,
- cables or cable plastics, or
- printed circuit boards

The guidance also applies to you if you receive these wastes.

This guidance explains how these components are classified and described.

https://www.gov.uk/guidance/classify-some-waste-electrical-devices-components-and-wastes-from-their-treatment

Section 1C: The classification and description of wastes from WEEE Treatment

You should read the guidance if you treat WEEE or receive wastes from its treatment.

This guidance explains how wastes arising from the treatment of WEEE are classified and described. It applies to the outputs of treatment that contain plastic components, cable or cable plastics, or printed circuit boards in any quantity.

In addition to general guidance that applies to all such wastes, specific advice is given for the following examples:

- Mixed wastes, containing plastic from the treatment of WEEE devices that are hazardous and POPs waste
- Plastic wastes from treating fridges and freezers
- Plastic containing residues from treating certain large domestic appliances (LDA)
- Wastes from treating outputs from other WEEE treatments by density separation

https://www.gov.uk/guidance/classify-some-waste-electrical-devices-components-and-wastes-from-their-treatment

Section 2: Hazardous Waste Controls

You should read is this guidance if any of the wastes you produce, hold, carry or receive are identified as hazardous waste in the guidance on waste classification and description referred to in Section 1.

Hazardous wastes are subject to hazardous waste controls within England and you should read the guidance of hazardous waste

- If produce or hold a hazardous waste https://www.gov.uk/dispose-hazardous-waste/producers-and-holders
- If you carry a hazardous waste https://www.gov.uk/dispose-hazardous-waste/carriers
- If you receive a hazardous waste https://www.gov.uk/dispose-hazardous-waste/consignees

Section 3: Management of waste containing Persistent Organic Pollutants (POPs)

You should read the guidance if you produce or treat WEEE, or manage the wastes from its treatment.

The waste management of WEEE devices containing high levels of POPs, above legal limits, is strictly controlled by the Persistent Organic Pollutants Regulations 2007.

The POPs present in the plastics, cables and printed circuit boards of WEEE that is POPs waste must be destroyed (or irreversibly transformed) by subsequent waste management activities.

You are not allowed to recycle or reuse these POP containing materials or components.

In practice, this means the plastics and other materials containing the POPs must be destroyed by incineration (or potentially other high temperature processes like a cement kiln).

Bromine separation technologies may be used to separate these POP containing plastics from other plastics and wastes. The latter may then be suitable for recycling.

Further information on the requirements and legal limits for POPs can be found on gov.uk:

https://www.gov.uk/guidance/dispose-of-waste-containing-persistent-organic-pollutants-pops

Section 4: Exporting WEEE, treated WEEE, and used electrical and electronic equipment (EEE)

You should read the guidance if you export WEEE, or wastes arising from its treatment, or if your waste is sent to someone who may export it.

You must notify the export of all WEEE.

You must also notify the export of wastes from the treatment of WEEE and WEEE components that contain hazardous chemicals or POPs.

You must not use the green list waste code GC020 for electronic scrap containing hazardous chemicals or POPs.

You must apply to the Environment Agency to obtain consent to export the waste. You must not move these wastes under ‘green list’ controls.

This advice on WEEE and GC020 is now published as guidance on gov.uk

https://www.gov.uk/guidance/classify-some-waste-electrical-devices-components-and-wastes-from-their-treatment

Further general information on the requirements for International Waste Shipments can be found on gov.uk.

- https://www.gov.uk/guidance/importing-and-exporting-waste#apply-for-import-or-export-notification-controls

Section 5: Reuse of WEEE as EEE.

You should read the guidance if you receive or prepare WEEE for reuse, or if you send your waste to someone who may do so.

This section does not apply to:

- LDA: white goods (it does however apply to other category 1 devices)
- Fridges, freezers, chillers and air-conditioning

Electrical devices containing POPs can be re-used provided that they are not, and were never previously, waste. As such, this reuse can never generate evidence of recycling or recovery for the purposes of the WEEE Regulations.

However if, at any point, an electrical device containing POPs becomes waste, it becomes subject to the legal requirement to destroy (or irreversibly transform) the POP. You are not allowed to reuse this device and it cannot cease to be waste, even if it is in working order. The POPs must be destroyed.

This means that an item of WEEE (other than LDA white goods and Refrigerators) cannot cease to be a waste, or be reused, unless you have undertaken an assessment to demonstrate that POPs are not present in that device or item of equipment.

Organisations wishing to re-use WEEE would, in addition to other requirements, need to implement effective and reliable techniques to identify which devices contain POPs in plastic components, cable and printed circuit boards to enable them to distinguish and separate out those devices that contain POPs (and require destruction) from those that don't. The latter can be reused or recycled.

Our guidance explains the rules for:

- Reuse of WEEE within the UK (which considers manufacturing date), and
- Reuse involving export of devices.

https://www.gov.uk/guidance/classify-some-waste-electrical-devices-components-and-wastes-from-their-treatment.

If you are exporting WEEE for re-use, you should expect us to ask you for a copy of your assessment of chemical composition.