

Document 5: Non-Technical Summary: EPR/JB3204HU/A001

This application seeks to authorise, by way of an Installation environmental permit, a WEEE waste treatment facility at Ashday Works, Elland Road, Elland, West Yorkshire, HX5 9JB. The facility will be used as an Approved Authorised Treatment Facility for specific items of WEEE, predominantly flat panel displays (FPDs) units, such as flat screen televisions, with some capacity for also handling CRT screens (for storage, transfer or manual disassembly), and also for processing pre-separated plastics containing persistent organic pollutants (POPs).

The activities on site will, with two exceptions, be commensurate with those of Standard Rules Permit SR2015 No.3 and SR2015 No.15: “Metal Recycling and WEEE Authorised Treatment Facility Excluding Ozone Depleting Substances” and “WEEE Authorised Treatment Facility Excluding Ozone Depleting Substances”, respectively. The first exception will be the input, into the site of separated plastics containing POPs from previous waste management processes. This gives such wastes a classification, under the European Waste Catalogue, of 190204* and it is this EWC code that is not included within the aforementioned Standard Rules permits. The second exception that renders this activity unsuitable for a Standard Rules (SR) permit is the daily capacity for storage – with capacities of hazardous waste exceeding the 10 tonnes per day limit under SR permits.

Incoming waste will be delivered via an articulated trailer containing 26 pallets of flat panels – of which, around 12 metric tonnes will need pre-checking, before processing to include the checking for potential reuse, removal of contamination, removal of external cables from flat panels, removal of stands and wall brackets from flat panels (the FPD Pro recycling equipment requires any stand or bracket removing before processing) and the batching of screens in flat panel televisions or flat panel monitors before processing. There are different processing techniques for TVs and monitors. All processing areas are served by a fit-for-purpose (Donaldson) filtration system using HEPA filters and calibrated analysers to ensure a safe working environment is constantly attained. The filtration system also has ducting over work benches where the manual disassembly of processed material is handled ensuring workers are protected from breathing in any dust within their working environment. Any exceedance of safe levels – as recorded at 4-hour intervals (signalled by an alarm) and checked and counter-signed by the overall manager in charge – will result in an evacuation of the premises and the immediate rectifying of the cause of exceedance. There will be no external (point-source) emissions.

Screens are then moved to a staging area waiting to be processed, FPD Pro can process approximately 100 screens per hour 1 metric tonnes per hour (assuming 10 kilos per screen and 100 screens per hour) with the hazardous plastics passed to the shredder and then the Pellenc equipment for separation into hazardous and non-hazardous plastics (which are around 24% in weight of a whole TV). Mercury lamps will be left as a separated hazardous waste stream, and Liquid Crystal Display (LCD) units will be kept separate. All other components are non-hazardous.

The separated material types will then be moved, via fork-lift truck on shrink-wrapped pallets, to an outbound storage area and transferred to appropriate recycling/recovery or disposal sites using waste transfer notes and consignment notes, as appropriate.

CRT TVs and monitors will be received documented and weighed. Operatives will then manually dismantle the CRT devices with the plastics weighed before processing through the

on-site shredder and x-ray separation for BFR / POP removal, printed circuit boards, ferrous and non-ferrous will be sent for final processing with CRT glass packed into containers and sent to an approved auditable hazardous waste treatment facility. CRTs may also be kept whole and passed onto a UK third party approved and audited site for final treatment.

Measures for environmental monitoring

There will be no external emissions. Processing of products that may contain small amounts of mercury vapour are processed in an enclosed environment with a filtration system attached to activated carbon to capture any mercury vapour released from the material processing.

A separate HEPA filter system for particle capture enables any airborne dust from within the enclosed processing environment to be captured, the HEPA filtration system is also attached to the shredder processing the plastics to ensure no dust particles enter the warehouse environment. Additionally the filtration system also has ducting over work benches where the manually disassembly of processed material is handled ensuring workers are protected from breathing in any dust within their working environment.

Methods

Set positions are marked within the warehouse and are used to test for mercury vapour within the warehouse using a portable mercury analyser. The levels from the portable vapour monitoring equipment are recorded at the same time periods during the working times of the facility.

Procedures to assess the measures

Portable mercury test unit is calibrated in line with the manufacturer specifications including a baseline test module plugged into the analyser to confirm the device is calibrated correctly daily along with annual inspections of the monitoring equipment by the manufacturer.

This ensures that there are no external readings of mercury vapour outside of the enclosed environment attached to the activated carbon filtration system.

Frequency

The portable mercury analyser is used at set marked positions in the warehouse every 4 hours that the facility is processing material with results documented and recorded. A visual and alarm unit is displayed in the warehouse environment which counts down every 4 hours and sounds an alarm when the next test requires carrying out. The supervisor in charge of the shift carries out the required monitoring reporting any increase over the threshold immediately to their line manager. The daily recordings by the shift supervisor are counter signed and checked by the site overall manager in charge.