



**Environment Agency Permit Variation**  
**Environmental risk assessment**  
**Bridgenorth Flat Screen Recycling Facility**  
**EPR EB3005KB**

March 2024  
(updated for addition of new waste codes and new non hazardous waste treatment activity)

Pollution linkages				Judgement				Action (by permitting)	
Source	Pathway	Receptor	Harm	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
<b>- Flat Screen Recycling -</b>									
Release of particulate matter (dusts) vapours and polluting gasses	Air transport then inhalation	Local human population and site staff	Harm to human health - illness	Medium	Medium	Medium	Permitted waste input streams are whole items or components and are not loose dusts, powders or fibres.  CCFL tubes for example contain mercury but these are processed manually or using precision automation systems. Without appropriate controls there is potential for exposure if anyone is living or working close to the site (apart from the operator and employees).	Emissions from any process stages with the potential to cause emissions to air are dismantled either manually or mechanically within extraction booths via a network of local exhaust ventilation and an abatement system comprising fabric filtration and adsorption on activated carbon. Animated emissions are then released by a 7m stack.  Emissions to air (mercury and dust) have been risk assessed using detailed dispersion modelling techniques. The assessment concluded that emissions from the abatement system will not cause a breach of relevant air quality assessment limits and will not have a significant impact on local air quality, the general population or the local community.  The abatement system is capable of achieving the relevant substance specific BAT-AEL.  See also (appendix G AQA).	Low
	Air transport then deposition	Local human population	Nuisance - dust on cars, clothing etc	Medium	Low	Low	Local residents are often sensitive to dust.	Point source dust release from the facility is very low (<5 mg/m <sup>3</sup> ) and all processing activities are carried out inside a building (some limited pre-sorting of inputs may be carried out within a covered bay / Zapp Shelter). Waste input streams stored externally are whole items or components and do not include loose dusts, powders or fibres. Low volumes of shredder residues (outputs) stored externally are delivered by chute into two RORO containers (ferrous / non ferrous) and a bulk bag (PCB boards). POPs plastics are stored in a designated bay within the adjacent transfer station (inside a building). Waste chutes are covered and rubber extenders are present in addition to material in the RORO being kept below the height of the containers to minimise the effect of cross winds.  The facility does not have any history of amenity complaints which gives a good indication that current operations are not causing a problem and a	Very low

								supplementary detailed management plan is not required.	
Litter	Air transport then deposition	Local human population, livestock and wildlife.	Nuisance, loss of amenity and harm to animal health	Low	Medium	Medium	Local residents are often sensitive to litter.	Permitted waste inputs are whole items or components and do not include loose dusts, powders or fibres. The type of waste inputs. All processing of raw materials is contained within a building which minimises the escape of residues created during dismantling. Shredder residues stored externally are collected in RORO containers or a bulk bag prior to transport off site.  The external yard area is monitored daily and cleared as required.	Very low
Waste and litter on local roads	Vehicles entering and leaving site.	Local human population	Nuisance, loss of amenity, road traffic accidents	Low	Medium	Medium	Road safety, local residents are often sensitive to litter on roads.	The type of waste inputs are whole items or components and do not arrive to the site with significant contamination, and no light fraction such as loose films etc. They are usually offloaded rather than being tipped, although certain wastes may be suitable for tipping directly into the covered bay. Escape of waste from transport is therefore very unlikely.  Shredder residues stored externally are collected in RORO containers or a bulk bag prior to transport off site. Other residues are stored internally and containerised or bagged before loading into vehicles for onward transport.	Very low
Odour	Air transport then inhalation.	Local human population	Nuisance, loss of amenity	Low	Low	Low	Local residents are often sensitive to odour, however permitted waste types have low odour potential.	Waste types have no or very low source odour potential. The site does not accept biological waste, therefore storage quantities and times do not increase odour potential due to biodegradation. Any wastes that are taken for the first time are trialled first. If any odourous stages cannot be contained by dismantling with extraction to a carbon filter then they will not be accepted in bulk. There will be no waste with odour potential introduced into the shredder.	Low
Noise and vibration	Noise through the air and vibration through the ground.	Local human population	Nuisance, loss of amenity, loss of sleep.	Medium	Medium	Medium	Local residents often sensitive to noise and vibration	The facility is in an established industrial location which is less sensitive to noise than in an equivalent residential setting due to subjectively high background noise levels and it is not the dominant local noise source in the area. All equipment including the dominant internal noise source which is the main shredder are subject to planned preventative maintenance (PPM) which should prevent the development of annoying acoustic features caused by unbalanced fans and bearings etc. The inclusion of a small shredder for secure destruction will be of a much lower noise output and will not be distinguishable from the existing noise sources. The closest residential receptors are approximately 130m to the west beyond an adjacent industrial unit. There are residential receptors to the north approximately 290m away with several industrial units within the intervening distance. Other residential receptors are in excess of 500m away.  The facility does not have any history of amenity complaints which gives a good indication that current operations are not causing a problem and a supplementary detailed management plan is not required.	Low

Scavenging animals and scavenging birds	Air transport and over land	Local human population	Harm to human health - from waste carried off site and faeces. Nuisance and loss of amenity.	Low	Medium	Low	Permitted wastes unlikely to attract scavenging animals and birds but may become nesting / breeding sites.	Waste inputs and outputs have no potential to attract scavenging animals.	Very low
Pests (e.g. flies)	Air transport and over land	Local human population	Harm to human health, nuisance, loss of amenity	Low	Medium	Low	Permitted wastes are unlikely to attract pests.	Waste inputs and outputs have no potential to attract scavenging insects.	Very low
Flooding of site	Flood waters	Local human population and local environment	If waste is washed off site it may contaminate buildings / gardens / natural habitats downstream.	Low	High	Low	Hazardous wastes washed off site will add to the volume and hazard of the local post-flood clean up workload.	Environment Agency mapping shows the entire installation is situated in a 'Flood Zone 1' in relation to fluvial mechanisms meaning less than 0.1% AEP. The installation is over 700m from land susceptible to flooding. In relation to flooding by reservoirs the Environment Agency mapping shows there is no risk. Surface water flooding maps generated from LiDAR surveys show a small patch of land to the north of the facility has a low risk of flooding to below 300mm depth although this does not account for the presence of surface water drainage systems. There has been no historic flooding of the site recorded since at least 2016.	Very low
All on-site hazards: wastes; machinery and vehicles.	Direct physical contact	Local human population and / or livestock after gaining unauthorised access to the waste operation	Bodily injury	Medium	Medium	Medium	Site security measures are in place to prevent theft. Although waste types stored on site are hazardous, a medium magnitude risk is estimated.	The installation is managed and operated in accordance with a management system which includes site security measures to prevent unauthorised access.	Low
Arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land.	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches.	Local human population and local environment.	Respiratory irritation, illness and nuisance to local population. Injury to staff, firefighters or arsonists/vandals. Pollution of water or land.	Medium	Medium	Medium	Although some permitted waste types are hazardous and some are flammable, a medium magnitude risk is estimated.	The installation operates in accordance with a fire prevention plan 'FPP'.	Low
Accidental fire causing the release of polluting materials to air (smoke or fumes), water or land.	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches.	Local human population and local environment	Respiratory irritation, illness and nuisance to local population. Injury to staff or firefighters. Pollution of water or land.	Medium	Medium	Medium	Risk of accidental combustion of waste is moderate.	The installation operates in accordance with a fire prevention plan 'FPP'.	Low

Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste e.g. containing suspended solids	Direct run-off from site across ground surface, via surface water drains, ditches etc.	All surface waters close to and downstream of site.	Acute effects: oxygen depletion, fish kill and algal blooms	Medium	Medium	Medium	Although permitted waste types include some hazardous liquids a medium magnitude risk is estimated.	All external processing and storage activities take place on sealed drainage directed to foul sewer and controlled by a discharge consent. There are no direct discharges to surface water. The activities carried out at the facility do not require any bulk storage of chemicals (other than a small bunded fuel oil tank and small amounts of lubricant for maintenance activities).	Low
Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste e.g. containing suspended solids	Direct run-off from site across ground surface, via surface water drains, ditches etc. Indirect run-off via the soil layer	All surface waters close to and downstream of site.	Chronic effects: deterioration of water quality	Medium	Medium	Medium	Permitted waste types include hazardous liquids so harm may not be temporary and reversible.	Waste types and residues have a very low potential for leachate generation. Processing activities take place inside a building with a concrete slab base with no internal drainage and are therefore contained. Some storage and sorting of waste takes place external to the building but this is carried out in a covered Legioblock bay. There is a gully drain running across the bay which discharges into the foul network. The activities do not require any bulk storage of chemicals (other than a small bunded fuel oil tank and small amounts of lubricant for maintenance activities).	Low
Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste e.g. containing suspended solids.	Direct run-off from site across ground surface, via surface water drains, ditches etc. then abstraction.	Abstraction from watercourse downstream of facility (for agricultural or potable use).	Acute effects, closure of abstraction intakes.	Medium	Medium	Medium	Although permitted waste types include some hazardous liquids a medium magnitude risk is estimated. Watercourse must have medium / high flow for abstraction to be permitted, which will dilute contaminated run-off.	As above.	Low
Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste e.g. containing suspended solids.	Transport through soil/groundwater then extraction at borehole.	Groundwater	Transport through soil/groundwater then extraction at borehole.	Low	Medium	Medium	Permitted waste types include hazardous liquids so harm may not be temporary and reversible.	Bedrock beneath the site is designated a 'Principal' aquifer, superficial drift deposits are classified as 'Secondary A'. The facility is not in a source protection zone, the nearest protected area is an SPZ 1 which is over 1300m to the east.  There are no point source emissions to groundwater. Processing activities take place inside a building with a concrete slab base with no internal drainage. Some storage and sorting of incoming display units takes place externally on an impermeable surface with sealed drainage diverted to foul sewer. The activities do not require any bulk storage of chemicals (other than a small bunded fuel oil tank and small amounts of lubricant for maintenance activities).	Low
Any	Any	Protected sites - European sites and SSSIs	Harm to protected site through toxic contamination, nutrient enrichment, smothering,	Low	Medium	Low	Waste operations may cause harm to and deterioration of nature conservation sites.	The closest SSSI with biological interest is approximately 2700m to the south west of the facility. There are no other SSSI / SAC / SPA or RAMSAR sites within a 5000m radius. There will be no influence of activities carried out on site to these receptors.	Low

			disturbance, predation etc.						
Serious Fire	Air transport then inhalation or deposition.	Local human population and all surface waters close to and downstream of site.	Nuisance, harm to human health, loss of amenity, deterioration of water quality	Low	High	Medium	Waste fires are not common but approximately 300 fires pa linked to waste activities. Impact on health and amenity can be significant for many days or weeks.	The installation operates in accordance with a fire prevention plan 'FPP'.	Low
Serious Fire	Direct run off of fire water across site to surface waters.	All surface waters close to and downstream of site.	Loss of amenity, deterioration of water quality	Low	High	Medium	Waste fires are not common but approximately 300 fires pa linked to waste activities. In event of fire, fire water can be produced for days/ weeks. Contaminated firewater run-off can kill fish and aquatic life.	The installation operates in accordance with a fire prevention plan 'FPP'.	Low
POPs	Any	Any	Harm to human health or the environment	Low	High	Medium	Some plastic waste including the plastic casings from flat screen displays contains persistent organic pollutants (POPs) and other hazardous flame retardants.	Article 7 of the Regulation (EU) 2019/1021 of the European Parliament and of the Council on persistent organic pollutants (the POPs regulation) - this requires that any POPs in waste plastic is destroyed or irreversibly transformed.  A precautionary approach is taken to identification of POPs waste. All plastic waste is treated as containing POPs unless it can be reliably confirmed that it does not. This would be done on a per load basis.  No waste containing POPs is recycled, transferred to another person for recycling, exported for recycling. All POPs waste is transferred to a suitably licensed facility.	Very low
Energy usage	Indirect	Any	Harm to human health or the environment	Medium	Medium	Low	Activities at the site use electricity.	The site uses small amounts of electricity for processing activities.	Low