



Environmental Risk Assessment

Facility:	Directly Associated Activity (Metals Recycling Site) to Celsa Manufacturing (UK) Ltd, Chapter 2, S2.1, Part A(1)(b)(i) installation that produces steel billet from scrap using an electric arc furnace and continuous casting (Permit Ref. EPR/TP3639BH)
Location:	Rover Way site, adjacent to Tremorfa Melt Shop, Tremorfa Works, Seawall Road, Cardiff, CF24 5TH
Operational Area:	New slag processing and asphalt plant located on the Rover Way site
Location of environmentally sensitive sites (m)	The site is adjacent (within 250 metres) of the Severn Estuary which is designated a Ramsar Site, Special Area of Conservation (SAC), Special Protection Area (SPA) and a Site of Special Scientific Interest (SSSI). There are 9 non-statutory SINC's within 2-km of the site.
Risk assessment carried out by:	Earth & Marine Environmental Consultants Ltd
Date:	December 2019

Probability of exposure (likelihood of the receptors being exposed to the hazard)

HIGH
MEDIUM
LOW
VERY LOW

Severity (Consequences)

The consequences of a hazard being realised may be actual or potential harm. This will include be on a high/medium/low/very low score using attributes and scaling to consider 'harm'.

Magnitude of the risk - is determined by combining the probability with the magnitude of the potential consequences

HIGH
MEDIUM
LOW
VERY LOW

Control measures (Risk management involves breaking or limiting the source-pathway-receptor linkage to reduce risk)

Data and information				Significance Assessment				Action and Residual Risks	
Source	Pathway	Receptor	Potential Harm	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Control Measures	Residual risk
Releases of particulate matter (dusts) during storage, loading and processing.	Air transport then inhalation.	Local human population	Harm to human health (respiratory irritation and illness).	LOW	MEDIUM	MEDIUM	<p>Permitted waste types do not include dusts, powders or loose fibres.</p> <p>Other adjacent landuses are mainly industrial.</p> <p>The closest sensitive receptors are located 300 metres north of the site the main Celsa steel making operations i.e. Willow High School, 308 metres north northwest (beyond existing steel manufacturing operations), travellers' site, 345 metres north northeast (beyond off-site substation and Welsh Water compound) and a residential area 580 metres north (across open land adjacent to Tesco store).</p>	<p>Industry standard work practices and transfer equipment e.g. drop height reduction, wind sheltering, moisture retention and surface treatment e.g. wet suppression will be employed (where possible).</p> <p>Good housekeeping driven by regular site inspections.</p> <p>Road sweeper employed (as required).</p> <p>Daily visual inspections of all areas of the site will be carried out by site personnel. In the event that significant visual dust is observed at the permit boundary of the site, action will be taken to either stop the activity and/or suppress the dust.</p>	LOW
Releases of particulate matter (dusts) during storage, loading and processing.	Air transport then deposition	Local human population	Nuisance (e.g. dust on cars, clothing etc.)	LOW	MEDIUM	MEDIUM	<p>Permitted waste types do not include dusts, powders or loose fibres.</p> <p>Other adjacent landuses are mainly industrial.</p> <p>The closest sensitive receptors are located 300 metres north of the site the main Celsa steel making operations i.e. Willow High School, 308 metres north northwest (beyond existing steel manufacturing operations), travellers' site, 345 metres north northeast (beyond off-site substation and Welsh Water compound) and a residential area 580 metres north (across open land adjacent to Tesco store).</p>	<p>Industry standard work practices and transfer equipment e.g. drop height reduction, wind sheltering, moisture retention and surface treatment e.g. wet suppression will be employed (where possible).</p> <p>Good housekeeping driven by regular site inspections.</p> <p>Road sweeper employed (as required).</p> <p>Daily visual inspections of all areas of the site will be carried out by site personnel. In the event that significant visual dust is observed at the permit boundary of the site, action will be taken to either stop the activity and/or suppress the dust.</p>	LOW

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Source	Pathway	Receptor	Potential Harm	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Control Measures	Residual risk
Litter	Air transport then deposition	Local human population, surrounding water features (dock) and wildlife.	Nuisance, loss of amenity and harm to animal health	LOW	MEDIUM	MEDIUM	Potential for wind driven moveable elements within the incoming waste streams is possible.	Good housekeeping driven by regular site inspections. Internal and external boundary routines to identify and collect any wind blown litter derived from site activities.	VERY LOW
Waste, litter and mud on local roads (derived from internal Port road system).	Vehicles entering and leaving site.	Local human population	Nuisance, loss of amenity, road traffic accidents.	LOW	MEDIUM	MEDIUM	Vehicles entering the site will enter from the public highway (Rover Way). The internal road system is an impermeable surface composed of engineered slag. No significant sources of mud have been identified.	Good housekeeping driven by regular site inspections. Internal and external boundary routines to identify and collect any wind blown litter derived from site activities. Road sweeper employed as required.	LOW
Odour	Air transport then inhalation.	Local human population	Nuisance, loss of amenity.	LOW	LOW	LOW	It is recognised that local residents are often sensitive to odour, however permitted waste types have low odour potential.	Good housekeeping combined with strict waste acceptance procedures would be used to identify putrescible waste within the incoming waste streams (considered unlikely). Where non-compliant material is identified it would be separated and removed.	VERY LOW
Noise and vibration	Noise through the air and vibration through the ground.	Local human population	Nuisance, loss of amenity, loss of sleep.	LOW	MEDIUM	MEDIUM	Local residents could be sensitive to noise and vibration derived from the site activities. The closest sensitive receptors are located 300 metres north of the site the main Celsa steel making operations i.e. Willow High School, 308 metres north northwest (beyond existing steel manufacturing operations), travellers' site, 345 metres north northeast (beyond off-site substation and Welsh Water compound) and a residential area 580 metres north (across open land adjacent to Tesco store).	Noise baseline and impact assessment has been undertaken. Accordingly, it is considered that the Proposed Development will not have an adverse noise impact on the local area. Where applicable, wheeled plant is to be used to reduce ground vibration. Periods of unloading noise and vibration will be for short duration. Boundary noise monitoring will be undertaken (where required). Operating hours will be restricted. All equipment is to be installed to meet planning and BAT requirements. A formal noise and vibration management plan has been established and will be maintained.	LOW

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Source	Pathway	Receptor	Potential Harm	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Control Measures	Residual risk
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	LOW	LOW	Permitted wastes unlikely to attract scavenging animals and birds but may become nesting/breeding sites (although this is considered unlikely).	Good housekeeping driven by regular site inspections. Internal and external boundary routines to identify and collect any waste types that may attract birds to the site.	VERY LOW
Pests (e.g. flies)	Air transport and over land	Local human population	Harm to human health, nuisance, loss of amenity	LOW	LOW	LOW	Permitted wastes unlikely to attract pests.	Good housekeeping driven by regular site inspections. Internal and external boundary routines to identify and collect any waste types that may attract pests to the site.	VERY LOW
Flooding of site	Flood waters	Local human population and local environment	If material is washed off-site it might contaminate off-site areas.	LOW	MEDIUM	MEDIUM	<p>A Flood Consequence Assessment for Planning was undertaken in June 2019 by SLR Environmental Limited.</p> <p>The Development Advice Map data shows that the Site lies within Zone B, however a review of information provided by Natural Resources Wales concludes that there is currently not a significant risk of flooding to the Site from fluvial or tidal sources.</p> <p>Whilst the flood risk to the Site will increase with the advent of climate change, and in particular the impact on sea levels, this can be readily mitigated.</p> <p>Flood risk from all other potential sources was also reviewed and found to be not significant.</p>	<p>Planned preventative management of the on-site drainage systems.</p> <p>Hazardous substances are stored within secondary containment and sealed drainage areas to reduce the loss of containment risk.</p> <p>If surface water flooding did happen site activities would cease and the NRW would be informed.</p>	LOW
All on-site hazards: wastes; machinery and vehicles.	Direct physical contact	Local human population gaining unauthorised access to the waste operation	Bodily injury	LOW	HIGH	MEDIUM	Site security measures at these facilities to prevent theft. There is security on entry to the site (controlled by Celsa). The entire Site is surrounded by 2.4 m high palisade fencing.	All activities shall be managed and operated in accordance with the stated management system (this includes site security measures to prevent unauthorised access).	LOW

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Source	Pathway	Receptor	Potential Harm	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Control Measures	Residual risk
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.	LOW	HIGH	MEDIUM	There are extensive site security measures to prevent theft. There is security on entry to the Site (controlled by Celsa). The entire Site is surrounded by 2.4 m high pallisade fencing.	All activities shall be managed and operated in accordance with the stated management system (this includes site security measures to prevent unauthorised access). Spillage procedures will be established and maintained alongside suitable sufficient spillage response materials. All materials stored in accordance with the stated procedures.	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.	LOW	HIGH	MEDIUM	Risk of accidental combustion of waste is low. Permitted activities do not include the burning or cutting of waste.	All activities shall be managed and operated in accordance with the stated management system. Spillage procedures will be established and maintained alongside suitable sufficient spillage response materials. All materials stored in accordance with BAT	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 etc.	All surface waters close to the site.	Acute effects: oxygen depletion, fish kill and algal blooms.	LOW	HIGH	MEDIUM	All permitted waste types are non hazardous solids so only a low magnitude risk. There is potential for silt contaminated rainwater run-off from materials stored outside especially during heavy rain but there is no direct discharge to surface water from the installation (no viable pathway).	All potentially hazardous liquids (e.g. fuels, cleaning chemicals etc.) shall be provided within secondary containment. Where equipment is installed this shall be located on an engineered impermeable surface. There is no direct discharge to surface water from the installation	LOW
Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste e.g. containing suspended solids.	As above. Indirect run-off via the soil layer.	All surface waters close to the site.	Chronic effects: deterioration of water quality.	LOW	HIGH	MEDIUM	All permitted waste types are non hazardous solids so only a low magnitude risk. There is potential for silt contaminated rainwater run-off from materials stored outside especially during heavy rain but there is no direct discharge to surface water from the installation (no viable pathway).	All potentially hazardous liquids (e.g. fuels, cleaning chemicals etc.) shall be provided within secondary containment. Where equipment is installed this shall be located on an engineered impermeable surface. There is no direct discharge to surface water from the installation	LOW

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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 (or use) of surface water downstream of facility (for agricultural, fish farming or potable use).	Acute effects, closure of abstraction intakes.	LOW	HIGH	MEDIUM	<p>All permitted waste types are non hazardous solids so only a low magnitude risk.</p> <p>There is potential for silt contaminated rainwater run-off from materials stored outside especially during heavy rain but there is no direct discharge to surface water from the installation (no viable pathway).</p>	<p>All potentially hazardous liquids (e.g. fuels, cleaning chemicals etc.) shall be provided within secondary containment.</p> <p>Where equipment is installed this shall be located on an engineered impermeable surface.</p> <p>There is no direct discharge to surface water from the installation</p>	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	Chronic effects: contamination of groundwater, requiring treatment of water or closure of borehole.	LOW	MEDIUM	MEDIUM	<p>The Mercia Mudstone Group (bedrock) is classified as a Secondary B Aquifer. The site is not in a source protection zone (SPZ).</p> <p>There is a limited potential for contaminated rainwater run-off or leakage from the stored materials.</p>	<p>All liquids (used within the installation) shall be provided with secondary containment.</p> <p>Where equipment is installed this shall be located on an engineered impermeable surface.</p>	LOW
Any	Any	Protected sites - European sites and SSSIs	Harm to protected site through toxic contamination, nutrient enrichment, smothering, disturbance, predation etc.	VERY LOW	VERY LOW	LOW	<p>The site is adjacent (within 250 metres) of the Severn Estuary which is designated a Ramsar Site, Special Area of Conservation (SAC), Special Protection Area (SPA) and a Site of Special Scientific Interest (SSSI). There are 9 Sites of Interest for Nature Conservation (SINC) within 2km of the installation.</p> <p>Operations can cause harm to and deterioration of nature conservation sites. However, there is only one point source emission to air from the process.</p> <p>No other significant pathway to impact the stated SSSI/SPA/SAC or SINC has been identified.</p>	<p>The activity is fitted with abatement (primary and secondary) to reduce dust emissions from the activity. The emissions are predicted to be well below the required statutory levels.</p> <p>All activities shall be managed and operated in accordance with the stated management system.</p> <p>The emissions to air have been assessed through the use ADMS5 dispersion modelling. The conclusions of the AERA assessment are as follows: the overall effect on air quality is considered 'not significant'; and the emissions from the plant are considered to cause 'no likely significant effect' to the Ramsar, SPA and SAC sites and 'no likely damage' to the SSSI and SINC sites.</p>	VERY LOW

Data and information				Significance Assessment				Action and Residual Risks	
Source	Pathway	Receptor	Potential Harm	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Control Measures	Residual risk
Serious Fire	Air transport then inhalation or deposition. Direct run off of fire water across site to surface waters.	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	Risk of accidental combustion of waste is low. Permitted activities do not include the burning of waste.	<p>All activities shall be managed and operated in accordance with the stated management system.</p> <p>A fire detection and alarm system shall be fitted to the process.</p> <p>Spillage procedures will be established and maintained alongside suitable sufficient spillage response materials.</p> <p>Settlement lagoon (340 m³) drains the area occupied by the asphalt plant. The discharge point can be controlled by the operator.</p>	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	Risk of accidental combustion of waste is low. Permitted activities do not include the burning of waste.	<p>All activities shall be managed and operated in accordance with the stated management system.</p> <p>A fire detection and alarm system shall be fitted to the process building.</p> <p>Spillage procedures will be established and maintained alongside suitable sufficient spillage response materials.</p> <p>Settlement lagoon (340 m³) drains the area occupied by the asphalt plant. The discharge point can be controlled by the operator.</p>	LOW