

Environmental Risk Assessment



Facility:

Waste Operation (Bespoke - Tier 3) - Celsa Manufacturing (UK) Ltd, Metals Recycling Site

Location:

Swansea Docks, Lockhead, Kings Dock, Swansea, SA1 1QR

Location of environmentally sensitive sites (m)

Cors Crymlyn/Crymlyn Bog SSSI (within 2-km)

Risk assessment carried out by:

Earth & Marine Environmental Consultants Ltd

Date:

January 2018

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 handling and processing.	Air transport then inhalation.	Local human population	Harm to human health (respiratory irritation and illness).	LOW	MEDIUM	MEDIUM	Permitted waste types do not include dusts, powders or loose fibres. Other adjacent landuses are Port based or related to waste treatment. The closest residential receptors are located approximately 500 metres north of the Site on the northern side of the Prince of Wales Dock.	Good housekeeping driven by regular site inspections. Road sweeper employed as required. Daily visual inspections at 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.	LOW

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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 handling and processing.	Air transport then deposition	Local human population	Nuisance (e.g. dust on cars, clothing etc.)	LOW	MEDIUM	MEDIUM	Permitted waste types do not include dusts, powders or loose fibres. Other adjacent landuses are Port based or related to waste treatment. The closest residential receptors are located approximately 500 metres north of the Site on the northern side of the Prince of Wales Dock.	Good housekeeping driven by regular site inspections. Road sweeper employed as required. Daily visual inspections at 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.	LOW
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 minimal.	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 through the Port of Swansea. The internal road system is an impermeable surface but large puddles have been identified between the entrance and the Site. The Site itself is composed of impermeable surface and no source of mud has 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	Local residents 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 contained.	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 residential receptors are located approximately 500 metres north of the Site on the northern side of the Prince of Wales Dock. There are various other noise and vibration sources between the Site and the closest residential receptors.	Where applicable, wheeled plant is 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 restricted.	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 given the size of the site).	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 waste is washed off site it may contaminate the adjacent Dock.	LOW	MEDIUM	MEDIUM	According to the NRW Flood Risk mapping, the Site lies within an area of Low chance of flooding (rivers and seas). Low means that each year, this area has a chance of flooding of between 1 in 1000 (0.1%) and 1 in 100 (1%). The Site is not at risk of flooding due to surface water and there is no reservoir flood risk.	Planned preventative management of the separator (weekly inspection) and servicing (6 monthly maintenance). Hazardous substances are stored within secondary containment and sealed drainage areas to reduce the loss of containment risk. If surface water flooding did happen site activities would cease and the NRW would be informed.	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 Port of Swansea (operated by ABP) and there will be 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).	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	Site security measures at these facilities to prevent theft. There is security on entry to the Port of Swansea (operated by ABP) and there will be security on entry to the Site (controlled by Celsa). The entire Site is surrounded by 2.4 m high pallisade fencing. Permanent CCTV is to be provided.	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 FPMP.	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 of waste.	All activities shall be managed and operated in accordance with the stated management system. A Site-specific Fire Prevention & Mitigation Plan (FPMP) has been established and maintained. Spillage procedures will be established and maintained alongside suitable sufficient spillage response materials. All materials stored in accordance with the FPMP.	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 (separator) etc.	All surface waters close to the site (Swansea Docks).	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 is estimated. There is potential for contaminated rainwater run-off from wastes stored outside especially during heavy rain.	All liquids shall be provided with secondary containment. Run-off from the slab is engineered to drain through the Class 1 full retention separator (NSF200). With a nominal flow rate 200 litres/second the Class 1 separators is designed to achieve a discharge concentration of less than 5 mg/litre of oil. It has a silt capacity of 20,000 litres and a oil storage capacity of 2,000 litres.	LOW

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Source	Pathway	Receptor	Potential Harm	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Control Measures	Residual risk
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 (Swansea Docks).	Chronic effects: deterioration of water quality.	LOW	HIGH	MEDIUM	All permitted waste types are non hazardous solids so only a low magnitude risk is estimated. There is potential for contaminated rainwater run-off from wastes stored outside especially during heavy rain.	All liquids shall be provided with secondary containment. Run-off from the slab is engineered to drain through the Class 1 full retention separator (NSF200). With a nominal flow rate 200 litres/second the Class 1 separators is designed to achieve a discharge concentration of less than 5 mg/litre of oil. It has a silt capacity of 20,000 litres and a oil storage capacity of 2,000 litres.	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 (or use) of surface water downstream of facility (for agricultural, fish farming or potable use).	Acute effects, closure of abstraction intakes.	LOW	HIGH	MEDIUM	All permitted waste types are non hazardous solids so only a low magnitude risk is estimated. There is potential for contaminated rainwater run-off from wastes stored outside especially during heavy rain.	All liquids shall be provided with secondary containment. Run-off from the slab is engineered to drain through the Class 1 full retention separator (NSF200). With a nominal flow rate 200 litres/second the Class 1 separators is designed to achieve a discharge concentration of less than 5 mg/litre of oil. It has a silt capacity of 20,000 litres and a oil storage capacity of 2,000 litres.	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	There is a potential for contaminated rainwater run-off or leakage from permitted waste types.	All liquids shall be provided with secondary containment. The entire Site is constructed of good quality impermeable surface. There are no pathways to the groundwater.	LOW

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Contaminated waters used for recreational purposes	Direct contact or ingestion	Local human population	Harm to human health - skin damage or gastro-intestinal illness.	LOW	MEDIUM	MEDIUM	Unlikely to occur, but might restrict recreational use.	All liquids shall be provided with secondary containment. Run-off from the slab is engineered to drain through the Class 1 full retention separator (NSF200). With a nominal flow rate 200 litres/second the Class 1 separators is designed to achieve a discharge concentration of less than 5 mg/litre of oil. It has a silt capacity of 20,000 litres and a oil storage capacity of 2,000 litres.	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	Waste operations may cause harm to and deterioration of nature conservation sites. There are protected sites within 1-km. The closest site is Cors Crymlyn/Crymlyn Bog SSSI.	No emissions to air from the processes is anticipated. No pathway to impact the stated SSSI has been identified.	VERY LOW
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.	All activities shall be managed and operated in accordance with the stated management system. A Site-specific Fire Prevention & Mitigation Plan (FPMP) has been established and maintained. Spillage procedures will be established and maintained alongside suitable sufficient spillage response materials.	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.	All activities shall be managed and operated in accordance with the stated management system. A Site-specific Fire Prevention & Mitigation Plan (FPMP) has been established and maintained. Spillage procedures will be established and maintained alongside suitable sufficient spillage response materials.	LOW