

Generic risk assessment for standard rules set number SR2008No18 v3.0

Standard Facility:

Waste Operation: Mechanical Biological Treatment Facility

Location:

Applies to all potential locations.

Location of environmentally sensitive sites (km / m):

Greater than 1km (see below)

Risk assessment carried out by:

Environment Agency

Date:

16-Mar-10

The scope of the permit and associated rules is defined by the following risk criteria:

- Parameter 1 Permitted activities - The storage of waste (R13) and the biological treatment, heat treatment and physical treatment of waste for recovery (R3, R4, R5).
- Parameter 2 Permitted waste types - Non hazardous Municipal Waste,
- Parameter 3 Quantity of waste accepted at the facility: <75,000 tonnes per annum.
- Parameter 4 All wastes shall be stored and treated inside a building.
- Parameter 5 All waste shall be stored and treated on an impermeable surface with sealed drainage system.
- Parameter 6 The only point source discharges to controlled waters are surface water from the roofs of buildings and from areas of the facility not used for the storage or treatment of wastes.
- Parameter 7 The activities shall not be carried out within 250m of any residential property of workplace.
- Parameter 8 The activities shall not be carried out within 500 metres of a European Site (candidate or Special Area of Conservation, proposed or Special Protection Area or Ramsar site) or a Site of Special Scientific Interest (SSSI).
- Parameter 9 The activities are not carried out predominantly using a limited number of the permitted waste types in a manner which significantly increases any of the risks compared to the generic operation of this type of facility, for example predominantly storing wastes which present a significant increase in fire risk.

Abbreviations:

SR - standard rule
 SR (emissions of substances not controlled by emission limits) - emissions of substances shall not cause pollution...., with appropriate measures: storage and treatment of wastes inside a building on an impermeable surface with sealed drainage system; biological and heat treatment ...under negative pressure Air extraction fitted with biofilters or similar.
 SR (Animal By-Products) - The permitted wastes do not include Animal By- Products contaminated material unless the plant has been approved by the competent authority, which is Animal Health.
 [In which case the increased risks will be managed by separate controls under the Animal By-products regulation].

Data and information				Judgement				Action (by permitting)	
Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequences be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?	How can I best manage the risk to reduce the magnitude?	What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).

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Local human population	Release of micro-organisms (bioaerosols)	Harm to human health - respiratory irritation and illness	Air transport then inhalation	High	High	High	Biological treatment and heat treatment produces and is likely to release micro-organisms. There is potential for exposure if anyone living or working close to the site (excluding operator and employees).	SR - activities shall not be carried out within 250 metres of a residential property or workplace. SR (emissions of substances not controlled by emission limits). SR (if required) - emissions management plan. SR (Animal By-Products)	Low
Local human population	Releases of particulate matter (dusts).	As above.	Air transport then inhalation.	High	Medium	High	Permitted waste types do not include dusts, powders or loose fibres but treatment produces and is likely to release particulates. There is potential for exposure if anyone living or working close to the site (excluding operator and employees).	As above	Low
Local human population	As above	Nuisance - dust on cars, clothing etc.	Air transport then deposition.	High	Low	Medium	As above	As above	
Local human population	Releases of particulate matter (dusts) and micro-organisms (bioaerosols).	Gastro-intestinal illness	Air transport then deposition on garden fruit/vegetables and then ingestion.	Medium	Medium	Medium	Most dust will be washed off by rain or during food preparation. Illness likely to be mild and short term	As above	Very Low
Local and distant human population	As above	As above. Includes eating crops grown within 250 metres of the site.	Air transport then deposition on commercial/wild fruit/vegetables then ingestion.	Medium	Medium	Medium	As above. Proportion of diet from this source will be low.	SR (emissions of substances not controlled by emission limits). SR (if required) - emissions management plan.	Very low
Local human population, livestock and wildlife.	Litter	Nuisance, loss of amenity and harm to animal health	Air transport then deposition	Medium	Medium	Medium	Local residents often sensitive to litter.	As above. Appropriate measures could include clearing litter arising from the activities from affected areas outside the site.	Low
Local human population	Waste, litter and mud on local roads	Nuisance, loss of amenity, road traffic accidents	Vehicles entering and leaving site	Medium	Medium	Medium	Local residents often sensitive to mud on roads.	As above. Appropriate measures could include clearing waste, litter and mud arising from the activities from affected areas outside the site.	Low

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Local human population	Odour	Nuisance, loss of amenity	Air transport then inhalation	High	High	High	Biological treatment and heat treatment produce and are likely to release odour. There is potential for exposure if anyone living or working close to the site (excluding operator and employees). Local residents often sensitive to odour.	SR - activities shall not be carried out within 250 metres of a residential property or workplace. SR (emissions of substances not controlled by emission limits). SR - emissions shall be free from odour at levels likely to cause pollution outside the site.... SR - The operator shall maintain and implement an odour management plan..... SR (Animal By-Products).	Low
Local human population	Noise and vibration	Nuisance, loss of amenity, loss of sleep	Noise through the air and vibration through the ground.	Medium	Medium	Medium	Local residents often sensitive to noise and vibration.	SR - emissions shall be free from noise and vibration..... SR (if required) - noise and vibration management plan.	
Local human population	Scavenging animals and scavenging birds.	Harm to human health - from waste carried off site and faeces. Nuisance and loss of amenity.	Air transport and over land	High	Medium	High	Permitted wastes are likely to attract scavenging animals and birds.	SR (Animal By-Products). Access to wastes restricted by SR (emissions of substances not controlled by emission limits). SR - emissions of substances not controlled by emission limits (including those from scavenging animals, scavenging birds and other	Low
As above	Pests (e.g. flies)	Harm to human health, nuisance, loss of amenity.	Air transport and over land	High	Medium	High	Insect pests can multiply on permitted wastes, particularly in summer months	As above	Low
Local human population and local environment	Flooding of site	If waste is washed off site it may contaminate buildings / gardens / natural habitats downstream	Flood waters	Low	Medium	Medium	Permitted waste types are non-hazardous so any waste washed off site will add to the volume of the local post-flood clean up workload, rather than the hazard.	SR - management system (will include flood risk management).	Low
Local human population and / or livestock after gaining unauthorised access to the waste operation	All on-site hazards: wastes; machinery and vehicles.	Bodily injury	Direct physical contact	Medium	Medium	Medium	Permitted waste types are non-hazardous therefore only a medium magnitude risk is estimated.	SR - activities shall be managed and operated in accordance with a management system (will include site security measures to prevent unauthorised access).	Low

Local human population and local environment	Arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff, firefighters or arsonists/vandals. Pollution of water or land.	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches.	Medium	Medium	Medium	Apart from gully and street cleaning wastes, permitted waste types do not include sludges or liquids and are non-hazardous so only a medium magnitude risk is estimated.	As above. SR - management system (will include fire and spillages).	Low
Local human population and local environment.	Accidental fire causing the release of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff or firefighters. Pollution of water or land.	As above.	High	Medium	High	As above, however heat treatment increases the probability of fire so overall a high magnitude risk is estimated.	As above. Permitted activities do not include the burning of waste.	Low
All surface waters close to and downstream of site.	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste with high organic content.	Acute effects; oxygen depletion, fish kill and algal blooms	Direct run-off from site across ground surface, via surface water drains, ditches etc.	Low	Medium	Low	Apart from gully and street cleaning wastes, permitted waste types do not include sludges or liquids and are non-hazardous so only a low magnitude risk is estimated.	SR - All liquids shall be provided with secondary containment.... (applies to wastes and non- wastes such as fuels). Contact between rainwater and waste practically eliminated by SR (emissions of substances not controlled by emission limits).	Low
All surface waters close to and downstream of site.	As above	Chronic effects; deterioration of water quality	As above. Indirect run-off via the soil layer	Low	Medium	Low	As above	As above	Very low
Abstraction from watercourse downstream of facility (for agricultural or potable use).	As above	Acute effects, closure of abstraction intakes.	Direct run-off from site across ground surface, via surface water drains, ditches etc. then abstraction.	Low	Medium	Low	As above. Watercourse must have medium / high flow for abstraction to be permitted, which will dilute contamination so overall magnitude is low.	As above	Very Low
Groundwater	As above	Chronic effects: contamination of groundwater, requiring treatment of water or closure of borehole.	Transport through soil/groundwater then extraction at borehole.	Low	Medium	Low	As above.	As above.	Very Low
Local human population	Contaminated waters used for recreational purposes	Harm to human health - skin damage or gastro-intestinal illness.	Direct contact or ingestion	Low	Medium	Medium	Unlikely to occur, but might restrict recreational use.	SR (emissions of substances not controlled by emission limits). SR (if required) - emissions management plan.	Low

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Protected sites - European sites and SSSIs	Any	Harm to protected site through toxic contamination, nutrient enrichment, smothering, disturbance, predation etc.	Any	Medium	Medium	Medium	Waste composting operations may cause harm to and deterioration of nature conservation sites.	SR - activities shall not be carried out within 500 metres of a European Site or SSSI. (Distance criteria as agreed with Natural England/Countryside Council for Wales).	Low
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