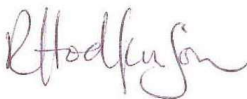


**EP Variation Application**

**Appendix B: ERA Addendum**

**Leeds Aggregate Manufacturing Facility  
(EPR/TP3737YG/A006)**

OCO\_2023.01/03 - May 2023

<b>Project details</b>	Environmental Permit Variation Application EPR/TP3737YG/A006 O.C.O Technology Limited – Leeds Aggregate Manufacturing Facility
<b>Applicant details</b>	O.C.O Technology Limited Leeds Aggregate Manufacturing Facility Hub 45 37 Knowsthorpe Gate Leeds LS9 0NX
<b>Report details</b>	<b>EP Variation Application – Appendix B: ERA Addendum</b> <b>Document reference: OCO_2023.01/03_v1</b>
<b>Report date</b>	25 May 2023
<b>Submitted to</b>	Permitting and Support Centre Environmental Permitting Team Environment Agency Quadrant 2 99 Parkway Avenue Parkway Business Park Sheffield S9 4WF Email: PSC@environment-agency.gov.uk
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## 1 INTRODUCTION

O.C.O Technology Ltd (the ‘applicant’) has requested that Reva Environmental Ltd (the ‘agent’) prepares an Environmental Permit (EP) variation application, for its aggregate manufacturing facility at Hub45, Knowsthorpe Gate, Leeds, LS9 0NX.

The facility treats air pollution control (APC) residues to create an aggregate that can be used in block manufacture. This is carried out in three production lines which can operate in parallel. APC residues are delivered in powder tankers and transferred into silos, then into a reactor where they are treated with carbon dioxide to lower the pH and reduce the leachability of some heavy metals. The material is then mixed with cement, sand, and water to turn it into pellets. The pellets are stored in curing bays then are moved to storage bays outside the permitted area where they remain pending collections by customers. Processing is all carried out in a building.

The facility is currently authorised by EP ref. EPR/TP3737YG which was originally granted in March 2018 and most recently varied by Variation Notice V004 in March 2021. The current EP allows the following activities to be carried out at the facility:

- 5.3 A(1)(a)(vi) – Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving the recycling or reclamation of inorganic materials other than metals or metal compounds (R5). This listed activity applies three times (AR1, AR2 and AR3) to reflect the three production lines and allows the applicant to treat certain hazardous wastes for the purposes of producing pellets; and
- 5.6 A(1)(a) – Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes (R13). The maximum storage capacity is given as 2,375 tonnes, and a maximum storage time of 6 months is enforced, from the date of receipt of the waste. This is listed activity AR4.

Five directly associated activities (DAAs) are included as follows:

- AR5: Management of processed materials – the handling and storage of screened and treated materials produced by activities AR1 – AR3;
- AR6: Storage of raw materials for use within production lines AR1 – AR3;
- AR7: Handling and storage of wastes, prior to treatment and recovery activities for non-hazardous wastes;
- AR8: Management of surface water for reuse – surface water collection and storage from areas serving AR4; and
- AR9: Management of surface water for discharge to sewer – collection, storage and discharge of clean, uncontaminated run-off from the aggregate stock yard, screening area and clean areas around the silos.

An application is being made to vary the EP to increase the permitted limit for throughput of waste in the three treatment lines. The current permit allows the treatment of up to 90,000 tonnes of hazardous waste per year. The application seeks to increase this limit to 120,000 tonnes per year based on the following:

- Efficiencies that have resulted from the past 5 years of operations and fine tuning of the treatment process during that period; and
- Reduction in down-time of the treatment lines, resulting in fine tuning and optimisation of maintenance programmes.

As a result of these two primary factors, the facility can treat a larger volume of waste that was originally anticipated. The increase will essentially allow an increase in throughput across all three lines, over increasingly prolonged periods due to reduced shutdown (non-operational) periods.

What does, however, remain unchanged by the proposed increase in throughput is any of the existing related infrastructure or indeed the EP boundary. Whilst the quantity of waste processed, and therefore also the quantity of raw materials needed, will increase, the quantity of waste stored on site at any one time does not need to be increased; nor does the quantity of filler, binder, or CO<sub>2</sub>. Existing storage provision for these remains as per the current EP.

The increase in waste throughput and raw material use is considered to result in only one change and that is the number of deliveries made to the site. In alignment with the planning application being submitted, it is confirmed that there will be an additional 9 vehicle trips per day on average. This is 4.5 deliveries of APCr; a small increase.

Question 6 of EA application form Part C2 requires the provision of an environmental risk assessment (ERA). There is an existing qualitative assessment in place at the site for the current activities and it follows the EA's source-pathway-receptor model (ref. OCO 2020.22/03\_v1 Appendix E, dated 26 June 2020). It was written for the variation application to add the third duplicate processing line. A copy is included in **Annex ERA1** for completeness.

The purpose of this variation application is simply to increase the throughput of existing waste types, in the existing treatment plants and it is confirmed that this does not present any new sources, pathways or receptors, however a review of the existing ERA has been undertaken to confirm this. This ERA addendum assesses just the changes and comprises an addendum to the existing ERA.

It sets out the risks of potential failure or incident scenarios related to the proposed processes and assesses these in terms of the potential impact on any sensitive receptors. The risk assessment concludes that the residual risk of the addition of the receipt, storage, repackaging and transfer processes will be no greater than the level identified for existing risks at the site.

## 1.1 Nature Conservation Sites

The risk assessment was reviewed and updated for the purposes of the 2020/2021 variation (that led to the current permit) which was for the increase from two to three process lines. Pre-application advice was sought at that time, from the EA, and the response from the EA included a habitat screening assessment. It noted two local nature reserves/wildlife sites within 2 km of the site:

- Halton Moor (LNR and LWS) comprising grassland, woodland, and scrub land – lying at approximately 1 km to the northeast; and
- Temple Newsam Estate Wood (LWS) comprising woodland – lying at approximately 1.5 km to the east.

A magic.gov.uk search has been carried out for this 2023 application, to check if any new habitat sites are within the screening distance of the facility. None were identified.

## 2 RISK ASSESSMENT

Table ERA1: Risk Screening

Hazard	Receptor	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
Releases of particulate matter (dusts)	Local human population/presence, livestock, and wildlife. There are no surface water features within 250 m of the Site boundary, the closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the southeast of the site boundary, Halton Moor (Local Nature Reserve and Local Wildlife Site - grassland, woodland and scrub) lies at approximately 1 km to the northeast and Temple Newsam Estate Wood (Local Wildlife Site - woodland) lies at approximately 1.5 km to the east.	Harm to human health - respiratory irritation and illness.	Air transport then inhalation	Low	There are no proposed changes to the types of waste received at the site, nor to the types of raw materials as a result of the variation. Receipt, repackaging and storage activities will take place as per the existing waste acceptance procedures.  The increase in process throughput doesn't introduce any new point source emissions to air.	N
		Nuisance - dust on cars, clothing etc.		Very Low	There will be an increase in vehicle movements of, on average, 9 per day (4.5 in/out). Existing controls apply regarding vehicles moving into/out of and around the site (appropriate road surfacing, regular cleaning/damping as required, and visual assessment).	N

Hazard	Receptor	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
Fire or Explosion from release of hydrogen gas from storage of IBA	Local human population and local environment. There are no surface water features within 250 m of the Site boundary, the closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the southeast of the site boundary, Halton Moor (Local Nature Reserve and Local Wildlife Site - grassland, woodland and scrub) lies at approximately 1 km to the northeast and Temple Newsam Estate Wood (Local Wildlife Site - woodland) lies at approximately 1.5 km to the east.	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters 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.	Low	There are no proposed changes to the types of waste received at the site, as a result of the variation. Receipt, repackaging and storage activities will take place as per the existing waste acceptance procedures.  Whilst the throughput is increasing, the storage capacity of the site is not changing.	N
Litter	Local human population/presence, livestock, and wildlife. There are no surface water features within 250 m of the Site boundary, the closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the southeast of the site boundary, Halton Moor (Local Nature Reserve and Local Wildlife Site - grassland, woodland and scrub) lies at approximately 1 km to the northeast and Temple Newsam Estate Wood (Local Wildlife Site - woodland) lies at approximately 1.5 km to the east.	Nuisance, loss of amenity and harm to animal health.	Air transport then deposition	Low	There are no proposed changes to the types of waste received at the site, nor to the types of raw materials as a result of the variation. Receipt, repackaging and storage activities will take place as per the existing waste acceptance procedures.  Processing takes place within the confines of the existing building which provides containment.	N

Hazard	Receptor	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
Waste and mud on local roads.	Local human population/presence. The closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the southeast of the site boundary.	Nuisance, loss of amenity, road traffic accidents	Vehicles entering and leaving site.	Low	<p>There are no proposed changes to the types of waste received at the site, nor to the types of raw materials as a result of the variation. Receipt, repackaging and storage activities will take place as per the existing waste acceptance procedures.</p> <p>Processing takes place within the confines of the existing building which provides containment.</p> <p>There will be an increase in vehicle movements of, on average, 9 per day (4.5 in/out). Existing controls apply regarding vehicles moving into/out of and around the site (appropriate road surfacing, regular cleaning/damping as required, and visual assessment).</p>	N
Odour	Local human population/presence. The closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the southeast of the site boundary, Halton Moor (Local Nature Reserve and Local Wildlife Site - grassland, woodland and scrub) lies at approximately 1 km to	Nuisance, loss of amenity	Air transport then inhalation	Low	<p>There are no proposed changes to the types of waste received at the site, nor to the types of raw materials as a result of the variation. There are therefore no new odour sources.</p>	N



Hazard	Receptor	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
	the northeast and Temple Newsam Estate Wood (Local Wildlife Site - woodland) lies at approximately 1.5 km to the east.				Receipt, repackaging and storage activities will take place as per the existing waste acceptance procedures.  Processing takes place within the confines of the existing building which provides containment.	
Noise and vibration	Local human population/presence, livestock, and wildlife. The closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the southeast of the site boundary, Halton Moor (Local Nature Reserve and Local Wildlife Site - grassland, woodland and scrub) lies at approximately 1 km to the northeast and Temple Newsam Estate Wood (Local Wildlife Site - woodland) lies at approximately 1.5 km to the east.	Nuisance, loss of amenity	Noise through the air and vibration through the ground	Medium	The site is already permitted for 24/7 operation. The variation to increase processing throughput does not result in any change to the noise profile.  Existing pollution control procedures will be applicable.	N
Scavenging animals and scavenging birds	Local human population/presence, livestock, and wildlife. There are no surface water features within 250 m of the Site boundary, the closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the southeast of the site boundary, Halton	Harm to human health - from waste carried off site and faeces. Nuisance and loss of amenity	Air transport and over land	Low	There are no proposed changes to the types of waste received at the site, nor to the types of raw materials, as a result of the variation. There are therefore no new sources of interest for scavengers.	N

Hazard	Receptor	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
	Moor (Local Nature Reserve and Local Wildlife Site - grassland, woodland and scrub) lies at approximately 1 km to the northeast and Temple Newsam Estate Wood (Local Wildlife Site - woodland) lies at approximately 1.5 km to the east.					
Pests (e.g., flies)	Local human population/presence, livestock, and wildlife. There are no surface water features within 250 m of the Site boundary, the closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the southeast of the site boundary, Halton Moor (Local Nature Reserve and Local Wildlife Site - grassland, woodland and scrub) lies at approximately 1 km to the northeast and Temple Newsam Estate Wood (Local Wildlife Site - woodland) lies at approximately 1.5 km to the east	Harm to human health, nuisance, loss of amenity	Air transport and over land	Low	There are no proposed changes to the types of waste received at the site, nor to the types of raw materials, as a result of the variation. There are therefore no new sources of interest for pests.	N
Flooding of site	Local human population/presence, livestock, and wildlife. There are no surface water features within 250 m of the Site boundary, the closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the	If waste and/or raw materials is washed off site, it may contaminate buildings / gardens / natural habitats downstream	Flood waters	Low	There are no changes to the types of waste or raw materials that will be present on the site, nor to the quantity of those on site at any one time. The risk profile for flooding is therefore unaffected by the variation.	N

Hazard	Receptor	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
	southeast of the site boundary, Halton Moor (Local Nature Reserve and Local Wildlife Site - grassland, woodland and scrub) lies at approximately 1 km to the northeast and Temple Newsam Estate Wood (Local Wildlife Site - woodland) lies at approximately 1.5 km to the east.					
All on-site hazards: wastes; machinery and vehicles	Local human population after gaining unauthorised access to the waste operation	Bodily injury	Direct physical contact	Low	There are no infrastructure changes resulting from the increase to processing throughput. The risk profile for on-site hazards is therefore unaffected by the variation.  The existing established management system applies which includes site security measures to prevent unauthorised access.	N
Arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land	Local human population/presence, livestock, and wildlife. There are no surface water features within 250 m of the Site boundary, the closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the southeast of the site boundary, Halton Moor (Local Nature Reserve and Local Wildlife Site - grassland, woodland and scrub) lies at approximately 1 km to the	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters 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	There are no infrastructure changes resulting from the increase to processing throughput. The risk profile for arson and/or vandalism is therefore unaffected by the variation.  The existing established management system applies which	N

Hazard	Receptor	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
Accidental fire causing the release of polluting materials to air (smoke or fumes), water or land.	northeast and Temple Newsam Estate Wood (Local Wildlife Site - woodland) lies at approximately 1.5 km to the east.  Local human population and local environment	Respiratory irritation, illness, and nuisance to local population. Injury to staff or fire fighters. 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	includes site security measures to prevent unauthorised access.  There are no proposed changes to the types of waste or raw materials as a result of the variation. Receipt, repackaging and storage activities will take place as per the existing waste acceptance procedures. Processing takes place within the confines of the existing building which provides containment. There are no infrastructure changes resulting from the increase to processing throughput. The risk profile for accidental fire is therefore unaffected by the variation.	N
Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste e.g.,	All surface waters close to and downstream of site, land, and groundwater	Acute effects: oxygen depletion, fish kill and algal blooms	Direct run-off from site across ground surface, via surface water drains;	Low	There are no proposed changes to the types of waste or raw materials as a result of the variation. Receipt, repackaging and storage activities will take place as per the	N

Hazard	Receptor	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
containing suspended solids.			transport through soil / groundwater		existing waste acceptance procedures. There are no new point source emissions to water introduced by the variation.	

### **3 CONCLUSION**

Based on the review of the assessment above, which follows the H1 approach for risk assessment, it is considered that the control measures that are in place at the site for the current permitted activities are appropriate.

The ERA is a live document and will be subject to regular review throughout the life of the permitted operations. It will also be amended, if required, following any significant change to operations, an incident resulting in an environmental impact, and/or any substantiated complaints.

**EP Variation Application**

**Annex ERA1: Original ERA**

**Leeds Aggregate Manufacturing Facility  
(EPR/TP3737YG/A006)**

OCO\_2023.01/03 - May 2023

A	B	C	D	E	F	G	H	I	J	K
Hazard	Receptor	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification of Magnitude	Risk Management	Residual Risk	
1										
2	Releases of particulate matter (dusts)	Local human population/presence, livestock and wildlife. There are no surface water features within 250 m of the Site boundary, the closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the southeast of the site boundary. Halton Moor (Local Nature Reserve and Local Wildlife Site - grassland, woodland and scrub) lies at approximately 1m to the northeast and Temple Newsam Estate Wood (Local Wildlife Site - woodland) lies at approximately 1.5 km to the east.	Harm to human health - respiratory irritation and illness.  Air transport then inhalation.	Low	High	Medium	Permitted waste types are hazardous and fine dusts (as are so if inhaled), the consequence could be high. APCs and IBA is transported in fully sealed powder tankers with appropriate safeguards, and is delivered into enclosed silos with dust filters, thus probability of exposure is low. Raw materials are similar (e.g. cement), with sand being delivered in sheeted vehicles and directly into dedicated, covered, storage areas. The likelihood of dust being generated is low and any potential for dust generation is appropriately mitigated through a dust suppression system and operational control procedures.	Waste, binders, and fillers are delivered in sealed powder tankers. Transfer of fit into silos is managed through driver induction and training in discharge of waste materials, use of appropriate couplings which are subject to regular inspection and maintenance. Silos are self-testing before each delivery which ensures that capacity is available to receive the load and that the discharge pressures are within the correct operating limits. Automatic shut-off if any safety system is breached. OP_GEN_302 "loading APCs and cement into silos" and OP_GEN_301 "receipt of bulk tanker". Waste silos are subject to regular inspection and maintenance and incorporate dust filters. Movement of untreated waste from silos is via sealed screw conveyors into the enclosed mixing chamber. At this stage water is added as well as the CO <sub>2</sub> , allowing the subsequent movement of material to be via conveyors (as it is no longer a fine dust) but within the confines of the process building. The building has roller shutter doors and these will be kept open as needed, to prevent dust build up in the building.  Incoming filler material is delivered in sheeted tipper trucks and is delivered directly into dedicated, covered, storage areas. The site is kept clean (mechanical road sweeper) and dampened down if necessary; the Team Leader is responsible for undertaking daily inspection of the site; this will include identification of any potential or actual dust emissions, and actions will be taken if required.	Low	
3		Nuisance - dust on cars, clothing etc.		Medium	Low	Medium			Very Low	
4	Fire or Explosion from release of hydrogen gas from storage of IBA	Local human population and local environment. There are no surface water features within 250 m of the Site boundary, the closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the southeast of the site boundary. Halton Moor (Local Nature Reserve and Local Wildlife Site - grassland, woodland and scrub) lies at approximately 1m to the northeast and Temple Newsam Estate Wood (Local Wildlife Site - woodland) lies at approximately 1.5 km to the east.	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters or arsonists/vandals. Pollution of water or land.	Low	High	Medium	Hydrogen gas can be released from incinerator bottom ash (IBA) during the ageing process. IBA will be received and stored on Site in silos prior to being processed.  It is acknowledged that local residents and habitat receptors are often sensitive to litter emissions however permitted wastes are not litter-generating. Waste that could generate litter will be limited to office and welfare facilities so small scale and managed in standard bins.	IBA is received at the Site and placed in silos. The silos are not hermetically sealed as the filters allow venting of the silo to atmosphere; this means the hydrogen gas cannot accumulate in the silo creating an explosive atmosphere. Because the process is continuous and 24/7, no waste material is stored for a prolonged period of time in the silo, therefore the IBA will not have the opportunity to age and generate hydrogen. Pre-acceptance procedures require testing of waste materials and for IBA type materials this testing includes one for hydrogen gas evolution. If this test identifies that hydrogen evolution is likely within a 2 week typical maximum storage period, the silo will be made intrinsically safe prior to accepting the material.	Low	
5	Litter	Local human population/presence, livestock and wildlife. There are no surface water features within 250 m of the Site boundary, the closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the southeast of the site boundary. Halton Moor (Local Nature Reserve and Local Wildlife Site - grassland, woodland and scrub) lies at approximately 1m to the northeast and Temple Newsam Estate Wood (Local Wildlife Site - woodland) lies at approximately 1.5 km to the east.	Nuisance, loss of amenity and harm to animal health.  Air transport then deposition	Low	Medium	Medium		It is not anticipated that litter will be an issue at the Site. The Team Leader is responsible for undertaking daily inspection of the site; this will include identification of any potential or actual litter emissions, and actions will be taken if required.	Low	
6	Waste and mud on local roads.	Local human population/presence. The closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the southeast of the site boundary.	Nuisance, loss of amenity, road traffic accidents.	Low	Medium	Medium	Road safety, local residents often sensitive to mud on roads.	The Team lead daily inspection will identify if there are any areas of build up of mud on internal and local roads and any issues will be cleared as soon as practicable; the facility and site roads are constructed of concrete and suitable road sweeping equipment will be used to ensure site roads kept clear and tidy; all vehicles entering and leaving the site are covered or fully enclosed; any complaints will be recorded in the site diary; an investigation will be undertaken and findings acted upon.  If EA perceives that mud is an issue, then a management plan will be implemented as required by the permit.	Low	
7										



A	B	C	D	E	F	G	H	I	J	K
	Odour	Local human population/presence. The closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the southeast of the site boundary. Halton Moor (Local Nature Reserve and Local Wildlife Site - grassland, woodland and scrub) lies at approximately 1m to the northeast and Temple Newsam Estate Wood (Local Wildlife Site - woodland) lies at approximately 1.5 km to the east.	Nuisance, loss of amenity.	Air transport then inhalation.	Medium	Medium	Medium	Local residents often sensitive to odour, permitted waste types are not generally odorous; nor are the raw materials (filler, binder, CO <sub>2</sub> ), however reactions within the process have the potential to generate ammonia (as a result of the waste source process overdosing ammonia for NOx abatement).	APCr does not have an odour, nor do the other wastes or raw materials. The APCr and IBA is discharged into the delivery tankers directly from the permitted ETW facilities therefore is a controlled source and will not be contaminated with any non-permitted waste. Every delivery is sampled prior to discharge (for compliance with specification). Filters in the inlet pipework to ensure that no foreign bodies are allowed into the process. The building has roller shutter doors and these will be kept open as needed, to prevent ammonia build up in the building. Operatives undertaking confined space cleaning are potentially exposed but are required to wear full face respirators for this activity.	Low
8	Noise and vibration.	Local human population/presence, livestock and wildlife. The closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the southeast of the site boundary. Halton Moor (Local Nature Reserve and Local Wildlife Site - grassland, woodland and scrub) lies at approximately 1m to the northeast and Temple Newsam Estate Wood (Local Wildlife Site - woodland) lies at approximately 1.5 km to the east.	Nuisance, loss of amenity	Noise through the air and vibration through the ground.	Medium	High	High	Local residents often sensitive to noise and vibration, closest residents are more than 850 m from the site, the site is within an existing 24/7 operational industrial area.	The noise design specification for the plant is such that employees are protected; the plant does not exceed 80 dBA at 1 m from the noise source. Operations are 24/7 but process plant is within a fully enclosed building. Any complaints will be recorded within the Site diary and an investigation will be undertaken and findings acted upon. White noise reversing beepers utilised on plant. Audible high level alarms on process plant are within the confines of the building.	Medium
9	Scavenging animals and scavenging birds.	Local human population/presence, livestock and wildlife. There are no surface water features within 250 m of the Site boundary, the closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the southeast of the site boundary. Halton Moor (Local Nature Reserve and Local Wildlife Site - grassland, woodland and scrub) lies at approximately 1m to the northeast and Temple Newsam Estate Wood (Local Wildlife Site - woodland) lies at approximately 1.5 km to the east.	Harm to human health - from waste carried off site and faeces. Nuisance and loss of amenity.	Air transport and over land.	Low	Medium	Medium	Permitted wastes and raw materials are non-biodegradable and will not attract scavenging animals and birds.	Pests and vermin are not expected to be an issue at the Site; the waste is not biodegradable so should not attract scavenging animals and birds; regular monitoring of the Site will be undertaken; any complaints will be recorded within the Site diary and an investigation will be undertaken and findings acted upon.	Low
10		Local human population/presence, livestock and wildlife. There are no surface water features within 250 m of the Site boundary, the closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the southeast of the site boundary. Halton Moor (Local Nature Reserve and Local Wildlife Site - grassland, woodland and scrub) lies at approximately 1m to the northeast and Temple Newsam Estate Wood (Local Wildlife Site - woodland) lies at approximately 1.5 km to the east.	Harm to human health, nuisance, loss of amenity.	Air transport and over land.	Low	Medium	Medium	Permitted wastes and raw materials are non-biodegradable and will not attract pests	Pests and vermin are not expected to be an issue at the Site; the waste is not biodegradable so will not attract scavenging animals and birds; regular monitoring of the Site will be undertaken; any complaints will be recorded within the Site diary and an investigation will be undertaken and findings acted upon.	Low
11										

A	B	C	D	E	F	G	H	I	J	K
	Flooding of site.	Local human population/presence, livestock and wildlife. There are no surface water features within 250 m of the site boundary, the closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the southeast of the site boundary. Halton Moor (Local Nature Reserve and Local Wildlife Site - grassland, woodland and scrub) lies at approximately 1m to the northeast and Temple Newsam Estate Wood (Local Wildlife Site - woodland) lies at approximately 1.5 km to the east.	If waste and/or raw materials is washed off site it may contaminate buildings / gardens / natural habitats downstream	Flood waters.	Low	Medium	Medium	Permitted waste types are hazardous, however there are no water courses within 250 m and the Site is not in a flood plain.	A flood risk assessment has not been produced for the facility as part of the planning application process as it was screened out.	Low
12	All on-site hazards: wastes; machinery and vehicles.	Local human population after gaining unauthorised access to the waste operation.	Bodily injury.	Direct physical contact.	Medium	High	High	Permitted waste types are hazardous, there are access ladders on silos, there is plant and machinery and moving plant/vehicles, and moving belts/conveyors.	The Site will be made secure by 2.4 m palisade fencing and lockable gates; intercom system at entrance during operational hours will only grant access to authorised vehicles and visitors; the site will have CCTV covering general operating areas; the location of the site is in an industrial area rather than a residential area where there will be local population.	Low
13	Arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land.	Local human population/presence, livestock and wildlife. There are no surface water features within 250 m of the site boundary, the closest residential receptors are some 850 m to the northeast of the site; the closest commercial receptor is 95 m to the southeast of the site boundary. Halton Moor (Local Nature Reserve and Local Wildlife Site - grassland, woodland and scrub) lies at approximately 1m to the northeast and Temple Newsam Estate Wood (Local Wildlife Site - woodland) lies at approximately 1.5 km to the east.	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters or arsonists/vandals. Pollution of water or land.	Air transport of smoke. Spillages and firewater by direct run-off from site and via surface water drains and ditches.	Medium	High	High	Permitted waste types do not include flammable materials	The Site will be made secure by palisade fencing and gates approximately 2.4 m high; lockable ladder guards on silos to prevent access, the Site will be made secure out of hours; there is a fire alarm; the Site will have CCTV. Intercom system at entrance during operational hours will only grant access to authorised vehicles and visitors; the site will have CCTV covering general operating areas; the location of the site is in an industrial area; the distance from residential receptors and therefore human presence is great. Pollution control measures including impermeable hardstanding and surface water management infrastructure provides protection in terms of providing storage capacity for fire water, including a cut off valve to prevent discharge from the underground attenuation tank. Water will be tested prior to discharge following fire to identify if it can be discharged.	Medium
14	Accidental fire causing the release of polluting materials to air (smoke or fumes), water or land.	Local human population and local environment.	Respiratory irritation, illness and nuisance to local population. Injury to staff or fire fighters. Pollution of water or land.	Air transport of smoke. Spillages and firewater by direct run-off from site and via surface water drains and ditches.	Medium	High	High	Permitted waste types unlikely to include flammable materials	The permitted waste types (and raw materials) are not flammable. Regular inspections and maintenance of key process plant and equipment (following planned preventative maintenance programme). Thermal cut outs on applicable equipment (e.g. electrical drives and inverters). Lightning protection systems in place on building, cement silo and APCr/IBA silos.  All reasonable precautions will be taken to prevent the outbreak of fire. In the first instance Site staff will extinguish the fire where possible, if required the fire brigade will be contacted. Any hot works are completed under the permit to work system including a 30 minutes 'fire watch' following any hot works. Pollution control measures including impermeable hardstanding and surface water management infrastructure provides protection in terms of providing storage capacity for fire water, including a cut off valve to prevent discharge from the underground attenuation tank. Water will be tested prior to discharge following fire to identify if it can be discharged.	Medium
15	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste e.g. containing suspended solids.	All surface waters close to and downstream of site, land, and groundwater.	Acute effects: oxygen depletion, fish kill and algal blooms.	Direct run-off from site across ground surface, via surface water drains; transport through soil / groundwater	Low	Medium	Medium	Permitted waste types do not include sludges or liquids, nor are stored in the open air where rainfall can generate a leachate.	Surface water from the waste silo pad will be captured by the surface water management system and pumped to a storage tank for use in the process. Water collected in the aggregate stockyard and screening area will be directed via a wedge pit/silt trap system prior to being fed to the underground attenuation tank prior to discharge to public sewer. The hardstanding will be inspected on a regular basis and remediation undertaken if required. In the event of any spillages on site, the cut off valve will be used to isolate the attenuation tank so that there is no discharge off site until testing has been carried out on the contents.	Low
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