Kirkby Environmental Permit Variation Application

ENVIRONMENTAL RISK ASSESSMENT

Future Industrial Services Limited

Date: January 2025

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1 INTRODUCTION

1.1 BACKGROUND INFORMATION

This Environmental Risk Assessment (ERA) is for an Environmental Permit variation application for an air pollution control residue (APCR) treatment and pelletisation process to produce a material to be used as a construction aggregate. The facility is operated by Future Industrial Services Ltd (hereafter referred to as FIS) at Acornfield Road, Kirkby.

1.2 SITE DETAILS

The installation address and national grid reference are detailed below:

Future Industrial Services Ltd
Acornfield Road
Knowsley Industrial Estate
Kirkby
Liverpool
L33 7UF

The surrounding area comprises:

- North: Commercial / Industrial premises which form part of the Knowsley Industrial Estate.
- South: A wooded parkland area with Matalan warehouse beyond.
- East: Bounded by Perimeter Road, beyond which is open farmland.
- West: Commercial / industrial premises which form part of the Knowsley Industrial Estate.

There are no Sites of Special Scientific Interest (SSSI), Special Protection Areas (SPA) or Special Areas of Conservation (SAC) within 2km of the Installation.

There is one Local Nature Reserve within 2km of the installation:

- Acornfield Plantation

1.3 SITE ACTIVITIES

The site is used as a waste management centre. The current main process on the site is the treatment of (aqueous) waste streams through the site's pH adjustment plant to produce a hazardous filter cake which is transferred on to landfill; and a non-hazardous aqueous effluent which is discharged to foul sewer in accordance with the site's discharge consent and environmental permit. The site also incorporates a packaged waste transfer station and blending / storage facilities for waste solvents, waste oils and aqueous effluent.

The proposed changes will result in additional activities to be included within the environmental permit and is expected to be as per below:

- Section 5.3 Disposal or recovery of hazardous waste Part A(1)(a) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving one or more of the following activities- physico-chemical treatment; and
- Section 5.4 Disposal, recovery or a mix of disposal and recovery of non-hazardous waste Part A(1)(a) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day (or 100 tonnes per day if the only waste treatment is anaerobic digestion) involving one or more of the following activities and excluding activities covered by Council directive 91/271/EEC concerning urban waste water treatment.

1.4 SITE ENVIRONMENTAL RISK ASSESSMENT OBJECTIVES

This ERA has been compiled by following Environment Agency (EA) Guidance on the webpage https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit:

- Identify and consider risks from the site, and the sources of the risks.
- Identify the receptors (people, animals, property and anything else that could be affected by the hazard).
- Identify the possible pathways from the sources of the risks to the receptors.
- Assess risks relevant to the specific activity and check they are acceptable and can be screened out.
- State what will be done to control risks if they are too high.

The risk assessment will identify whether any of the following risks could occur and what the environmental impact could be:

- any discharge, for example sewage or trade effluent to surface or groundwater;
- accidents;
- odour (not for standalone water discharge and groundwater activities);
- noise and vibration (not for standalone water discharge and groundwater activities);
- uncontrolled or unintended ('fugitive') emissions, for which risks include dust, litter, pests and pollutants that shouldn't be in the discharge;
- visible emissions, for example smoke or visible plumes; and
- release of bioaerosols, for example from shredding, screening and turning, or from stack or open point source release such as a biofilter.

1.5 EMERGENCY PREPAREDNESS AND RESPONSE

The installation has in place an emergency plan for managing accidents, incidents and complaints. These dictate the actions to take in the event of these occurring.

1.6 RECORDS

Records of all environmental non-conformances, accidents, incidents and complaints will be kept in accordance with the requirements of the Environmental Permit and FIS' Integrated Management System (IMS).

1.7 SUPPORTING INFORMATION

This environmental risk assessment is an addendum to the pre-existing accident management plan reference:

Accident Management Plan and H1 Environmental Risk Assessment 04/06/2015

Commented [GB1]: Surely these are two separate documents?
The Accident Management Plan will be a management system document - need to provide the reference number or refer to the main application document section where the AMP is discussed.

Commented [SH2R1]: We believe we have sent these documents through previously - this section needs updating with these references.

Commented [sc3R1]: No it was an expanded ERA to AMP

2 ENVIRONMENTAL RISK ASSESSMENT

2.1 SCOPE

The environmental risk assessment tables2.1-2.7 below cover the risks posed by the varied activity as detailed in Section 1.4.

Table 2.1 Discharge to sewer, surface or groundwater

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence.
Discharge to sewer	Sewer Watercourse	Via sewer	No discharge to sewer. No process effluent generated,	None	None	No risk
Discharge to surface water	Land	Local drainage ditch	All rainwater that falls on the yard area is directed to an appropriate rainwater tank. The rainwater will be tested for suitability and used in the existing APCR treatment activity. There is no discharge to surface water from the pelletisation activity.	None	None	No risk
Discharge to groundwater	Land Groundwater	Percolation to ground via defects in hardstanding	All yard areas where activities take place are covered in competent concrete hardstanding sufficient for the mixing and pelletisation activity. The area is subject to a daily site check which would identify any defects. Any defects identified would be noted in the site log and rectified. Operator will be in attendance throughout the operation of the mixing and pelletisation activity. The pit area is a self-bunded area which would contain any spillage.	Very low	Very low	Not significant if management practices are adhered to.

Table 2.2 Emissions to Air

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence.
Emissions to air of dust from mixing and pelletisation	Nearest residential property is 1.3km to the west with the exception of several isolated farm buildings at about 580m (east) and 1,100m (north west)	Air	The mixing and pelletisation activity is undertaken on a moist APCR post washing and dewatering which then binds in the sand and cement to form the pellet minimising the potential for dust generation. The process activity is a batch process only treating the waste during normal working hours which would limit the potential exposure of receptors. The activity takes place in a below ground area which would prevent any possibility of wind whip and of dust leaving the site. All dry materials such as unwashed APCR and cement are stored in appropriate silos. Record and act on complaints in accordance with the complaint's procedure.	Very low	Low- minor dust nuisance	Not significant if management practices are adhered to.
Emissions to air from storage of APCR and cement	Nearest residential property is 1.3km to the west with the exception of several isolated farm buildings at about 580m (east) and 1,100m (north west)	Air	All dry materials such as unwashed APCR and cement are stored in appropriate silos with filters on their vents. Operators are present during filling operations and any spills can be swept up. The area is subject to a daily site check which would identify any defects. Any defects identified would be noted in the site log and rectified. Record and act on complaints in accordance	Very low	Low- minor dust nuisance	Not significant if management practices are adhered to.

		with the complaints procedure.	

Table 2.3 Accidents

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence.
Spillage of APCR, Cement or Sand	Land Groundwater	Failure of silo. Spillages during deliveries and use.	A procedure is in place for supervision of deliveries. Loading areas are kept clear with access to loading points maintained. Silos are subject to inspection during the daily check. Operators are in attendance throughout offloading operation to take appropriate action in the event of a spillage. Any spills will be contained on the surface of the hardstanding and swept up.	Very low	Low	Not significant if management practices adhered to

Table 2.4 Odour Risk Assessment

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence.
Odour from mixing and pelletisation	Nearest residential property is 1.3km to the west with the exception of several isolated farm buildings at about 580m (east) and 1,100m (north west)	Air	The waste APCR to be used has been washed and along with the sand and cement is not inherently odorous. All waste is subject to visual inspection at off-loading into the silo along with pre-acceptance and acceptance sampling. If any non-conforming loads are identified they would be returned on the vehicle that delivered them. Any unusual odours to be investigated immediately by the operator and supervisors. Record and act on complaints in accordance with the complaint's procedure.	Very low- washed APCR, cement and sand is free from odour.	Very low	Not significant if waste acceptance procedures and supply agreement specification adhered to

Table 2.5 Noise Risk Assessment

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence.
Noise from vehicle movements – including delivery vehicles and other site traffic and reversing alarms.	Nearest residential property is 1.3km to the west with the exception of several isolated farm buildings at about 580m (east) and 1,100m (north west)	Sound propagation through the air.	The site is access controlled limiting non-essential traffic. Deliveries to the pit area will predominantly be during normal office hours. The pit area is below ground level and not in line of site with any potential receptors which would minimise the potential for exposure.	Low- It is unlikely there will be exposure of receptors to noise.	Low- Increased noise level at nearby receptors.	Not significant if management techniques are adhered to.

			Vehicle ignition will be switched off when not in use. All vehicles effectively maintained in accordance with road legislation. Any unusual noises to be investigated immediately by site management. Record and act on complaints in accordance with the complaint's procedure.			
Noise from normal and abnormal operation of plant and equipment	Nearest residential property is 1.3km to the west with the exception of several isolated farm buildings at about 580m (east) and 1,100m (north west)	Sound propagation through the air.	The main plant and equipment are operated in a below ground pit area where there is a 5m high concrete walls on each side which would act as a very effective acoustic barrier. Nearby sensitive receptors are located over 1km away in a downwind direction. All plant and equipment are subject to maintenance in accordance with manufacturers recommendations. This should ensure that all equipment is operating within normal parameters and noise from wear on equipment is minimised. The mixing and pelletising activity is a batch process that can be stopped immediately if any unusual noises occur. The mixing and pelletising activity only takes place during site operational hours which excludes evenings, nights and weekends. Any unusual noises to be investigated immediately by site management. Record and act on complaints in accordance with the complaints procedure.	Very low- It is unlikely there will be exposure of receptors to noise.	Low- Increased noise level at nearby receptors.	Not significant if management techniques are adhered to.

Table 2-6 Uncontrolled or unintended ('fugitive') emissions

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence.
Attraction of pests such as rodents and flies	Nearby businesses Nearest residential property is 1.3km to the west with the exception of several isolated farm buildings at about 580m (east) and 1,100m (north west)	Air Land	Pests are attracted to food and shelter. The APCR mixing and pelletisation activity is not an attractive food source and the site will be reasonably well lit so would not be attractive as a place to shelter. The site has a pest control contractor who manages all pest control activities at the site and visits on a monthly basis. A record of all pest control treatments carried out will be maintained by the contractor. Regular cleaning of site. Record and act on complaints in accordance with the complaint's procedure.	Low- Unlikely that pests will be attracted and if so would be subject to pest control measures that would prevent any issues outside the site boundary.	Low- nuisance to local residents with small chance to spread disease.	Not significant if management practices re adhered to.
Mud from onsite activities	Surrounding land Roadways	Tracked onto site by wheeled vehicles Windblown	The site would utilise a road sweeper if required to ensure access roads and yard areas are kept clean from any deposits if this is found to be a problem. The site access road is constructed of tarmac. Regular cleaning of site - working areas cleaned and hosed down, all site surface water goes to main interceptor and back through plant. Road Sweeper every 6 months (approx.) Record and act on complaints in accordance	Low	Low- can cause harm via road accidents	Not significant if management practices and working plan are adhered to.

			with the complaints procedure.			
Litter from onsite activities	Surrounding land Roadways	Tracked by vehicles Windblown	The APCR and other raw materials are delivered by tanker and would not generate any litter. Pit area is included within the daily site inspection and any issues with litter would be addressed in accordance with site procedures. Record and act on complaints in accordance with the complaints procedure.	Low	Low- litter accumulation can be unsightly.	Not significant if management are adhered to.
Fire	Nearest residential property is 1.3km to the west with the exception of several isolated farm buildings at about 580m (east) and 1,100m (north west) Soil / vegetation Groundwater	Air Soil / vegetation Percolation through soil	Fire will be addressed in accordance with the fire prevention plan and emergency plan. The site will utilise the hoses and water from the fire hydrants around site to address small fires. The APCR is not combustible and would be treated moist which would ensure that any risk is minimal. For larger fires the fire and rescue service would be called to address the fire. The fire response would be under their control. Staff are trained in fire response. This plan and the fire prevention plan have the relevant contact details for whom to contact in case of fire.	Very Low	Low/Medium- soil, groundwater and surface water contamination Air emissions Impact on human health	Low
Failure to contain firewater	Land Soil / vegetation Groundwater	Soil / vegetation Surface water drainage infrastructure Percolation through soil	Fire prevention measures as above. Invoke emergency response procedures as detailed within the fire prevention plan. The pit area is a large self-bunded area 68m x 68m which would contain significant volumes of firewater.	Very Low	Low/Medium- soil, groundwater and surface water contamination	Not significant if control measures adhered to and emergency plan enacted
Vandalism	Land Soil / vegetation Groundwater	Soil / vegetation	The site is in a secure industrial estate away from areas which would be prone to vandalism.	Very Low	Low- contamination	Not significant

		Surface water drainage infrastructure Percolation through soil	The site is fitted with perimeter fencing surrounding the site with access permitted through a secure access point. Site has CCTV systems and dedicated off-site security surveillance to prevent unauthorised access.			
Flood	Drainage ditch Pond Soil / vegetation Groundwater	Soil / vegetation Surface water drainage infrastructure Percolation through soil	The site is not in an area subject to flooding, Zone 1 low probability, according to the government flood mapping website.	Very Low	Low- Minor surface water or ground contamination	Not significant

Table 2-7 Visible Emissions

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence.
Visible dust emissions to air from mixing and pelletisation	Nearest residential property is 1.3km to the west with the exception of several isolated farm buildings at about 580m (east) and 1,100m (north west)	Air	The APCR used in the mixing and pelletisation activity has been washed and dewatered so it is moist which enables it to bind to the cement and sand to create the pellet without generating dust. The site boundary where the mixing and pelletisation takes place has a 5m concrete wall with earth behind which would prevent any dust egress as this is significantly higher than the height of the mixers and pelletisers. The mixing and pelletisation is a batch activity and can be ceased immediately if any issues observed. The mixing and pelletisation activity is supervised by operators.	Very low	Low- minor dust nuisance	Not significant if management practices are adhered to.

	Record and act on complaints in accordance with the complaints procedure.