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Consulting Engineers Limited

Ferrybridge IBA Recycling facility

Blue Phoenix Limited

Environmental Risk Assessment

ENGINEERING CONSULTING

Document approval

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1 Introduction

Blue Phoenix Limited (Blue Phoenix) operates an IBA processing facility (the Facility) at Ferrybridge, West Yorkshire. An Environmental Permit (EP) for the operation of the Facility was originally granted by the Environment Agency (EA) on the 17 September 2018. Since the EP was granted, there has been one variation granted by the EA.

Blue Phoenix is applying for a variation to the EP to increase the capacity of the Facility from 320,000 tonnes per annum to 420,000 tonnes per annum of waste.

The aim of this report is to assess the environmental risks from the activities associated with the changes to the operation of the Facility.

Within the permit application, Blue Phoenix is required to demonstrate that the necessary measures are in place to protect the environment and ensure that the Facility, throughout its life, will not pose an unacceptable risk to the environment.

The aim of this document is to:

a. identify potential risks that the activity may present to the environment;
b. screen out those that are insignificant and don't require detailed assessment;
c. identify potentially significant risks, where appropriate;
d. choose the right control measures, where appropriate; and
e. report the findings of the assessment.

This document has been developed to consider the requirements of Environment Agency Guidance Notes H1 Annexes A, C, H and F. It is acknowledged that these guidance documents have been withdrawn; however, it is understood that the requirements of the guidance are still applicable.

1.1 Risk Assessment Process

This assessment has been developed in accordance with the Environment Agency Guidance Note H1. This guidance promotes four key steps:

1. identify risks from the activity;
2. assess the risks and check that they are acceptable;
3. justify appropriate measures to control the risks; and
4. present the assessment.

1.2 Step 1 – Identify Risks

The following report will identify the activities that present different types of risk to the environment associated with the operation of the Installation, including:

a. noise;
b. fugitive emissions; and
c. accidents.

Impacts of odour has not been considered within this assessment, as it is understood that IBA is not inherently odorous and the operation of the Facility will not result in off-site odour impacts.

1.3 Step 2 – Assess the Risk

The report will include an assessment of risks associated with the operation of the Installation, and will identify the:

a. hazard;
b. receptor; and
c. pathway.

1.4 Step 3 – Justify Appropriate Measures

This report will demonstrate that the risks associated with the operation of the Installation have been considered, and identify the control measures which will be in place to demonstrate that the risks are being appropriately managed.

1.5 Step 4 – Present the Assessment

The assessment will conclude by presenting the following:

a. possibility of exposure;
b. consequence; and
c. the overall risk.

The report will present the overall risk applying the Environment Agency's H1 criteria, defined as:

a. insignificant;
b. not significant; and
c. significant.

2 Noise and Vibration Risk Assessment

What Do You Do That Can Harm and What Could Be Harmed?			Managing The Risk	Assessing The Risk		
Hazard	**Receptor**	**Pathway**	**Risk Management**	**Possibility 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 and probability and consequence.**
Vehicle movement for the transfer of IBA to and from the Facility	Local environment and sensitive receptors. The closest sensitive receptors from the Site Boundary are approximately 1 km north, 0.75 km west, 1.1km south, and 0.25 km east.	Sound and vibration propagation through air and the ground.	Vehicle movements will be limited during night time operations.	Minimal.	Nuisance.	Insignificant.
Outside the process building - noise from mobile plant and road going vehicles.	Local environment and sensitive receptors.	Sound and vibration propagation through air and the ground.	Vehicle movements will be limited during night time operations.	Minimal.	Nuisance.	Insignificant.
Noise from IBA recycling site items such as screening, conveyors and noise radiation from the	Local environment and sensitive receptors.	Sound propagation through air and the ground.	All processing plant will be installed inside the IBA processing building. There will be limited vehicle movements in/out at	Minimal.	Nuisance.	Insignificant.

What Do You Do That Can Harm and What Could Be Harmed?			Managing The Risk	Assessing The Risk		
Hazard	**Receptor**	**Pathway**	**Risk Management**	**Possibility 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 and probability and consequence.**
building envelope itself etc.			nighttime. Regular maintenance of plant items.			
Noise from the processing equipment in the extension to the IBA processing building.	Local environment and sensitive receptors.	Sound propagation through air and the ground.	The closest sensitive receptor is located on the opposite side of the building extension. As such, the building will screen out any additional noise impacts that may arise. The closest receptor on the side of the extension is approximately 0.75 km from the installation.	Minimal.	Nuisance.	Insignificant.

3 Fugitive Emissions Risk Assessment

What Do You Do That Can Harm and What Could Be Harmed?			Managing The Risk	Assessing The Risk		
Hazard	**Receptor**	**Pathway**	**Risk Management**	**Possibility 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 and probability and consequence.**
Dust from IBA deliveries being blown off-site.	Immediate area – air, land.	Air, direct contact.	All materials transferred out of the Facility are delivered by road within enclosed or covered vehicles, minimising the risk of fugitive emissions. Visual checks on vehicles arriving to/leaving the site will be undertaken by trained operatives.	Unlikely.	Nuisance, dust on cars and road.	Insignificant.
Tracking of IBA from vehicle wheels on roads within Ferrybridge.	Immediate area – air, land.	Air, direct contact.	Road sweepers and/or regular washdown will be implemented on roads where dust build-up has been identified, as part of good housekeeping procedures.	Not likely.	Nuisance, dust on cars and road.	Not significant.
Transfer of processed IBA to IBAA storage areas.	Immediate area – air, land, water.	Air, direct contact, surface runoff.	Conveyors for the transfer of IBAA will be enclosed on both sides, with their integrity regularly inspected	Unlikely.	Nuisance, dust on cars and road, contamination of surface water.	Insignificant.

What Do You Do That Can Harm and What Could Be Harmed?			Managing The Risk	Assessing The Risk		
Hazard	**Receptor**	**Pathway**	**Risk Management**	**Possibility 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 and probability and consequence.**
			as part of documented procedures.			
Emissions from IBA processing stages (crushing, size separation etc).	Immediate area – air, land, water.	Air, direct contact, surface runoff.	IBA will be maintained damp from quenching to reduce the generation of dust. The main processing building will be enclosed, with doors only opened for access/egress purposes. The site layout will take into account the location of sensitive receptors. Where appropriate, the additional processing equipment will be fitted with dust suppression such as misting/water/barrier techniques. Good housekeeping and regular washdown will be employed.	Unlikely.	Nuisance, dust on cars and road, contamination of surface water.	Insignificant.

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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 and probability and consequence.**
			Drop heights (e.g. from conveyors) will be minimised where possible.			
Fugitive emissions during IBAA storage in external areas.	Immediate area – air, land, water.	Air, direct contact, surface runoff.	Profiling and shielding of piles from wind whipping (using walls/shields). IBAA will be maintained damp through the dust suppressions sprays.	Not likely.	Nuisance, dust on cars and road, contamination of surface water.	Not significant.
Fugitive emissions during IBA/IBAA movement in external areas (including loading/unloading of IBAA/IBA onto/from vehicles in external areas).	Immediate area – air, land, water.	Air, direct contact, surface runoff.	The drainage from the external storage yard will drain into the attenuation lagoon for re-use within the Facility. Excess effluents would be discharged to Fryston Beck at greenfield runoff rates or tankered off-site to a waste management facility. Manual handling will be minimised where possible. IBAA/IBA will be maintained damp. Good housekeeping and regular	Not likely.	Nuisance, dust on cars and road, contamination of surface water.	Not significant.

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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 and probability and consequence.**
			washdown of IBA and IBAA storage areas will be undertaken.			
Spillage during IBA/IBAA movement in external areas (e.g. using bucket loaders).	Immediate area – air, land, water.	Air, direct contact, surface runoff.	The Facility will have a full contained site for all areas of IBA/IBAA storage, that falls towards the lagoon. Manual handling will be minimised where possible. Spill kits will be available at easily accessible locations. Mobile plant will be operated by trained operatives.	Not likely.	Nuisance, dust on cars and road, contamination of surface water.	Not significant.
Emissions of combustion products from the operation of mobile plant (such as bucket loaders).	Immediate area – air, land.	Air, direct contact, surface runoff.	Regulatory controls and best-practice measures to minimise source strength – vehicles will comply with relevant emissions standards. A no-idling policy will be in place for mobile plant when not in use.	Not likely.	Nuisance, dust on cars and road, contamination of surface water.	Not significant.

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Emissions as a result of maintenance and cleaning operations.	Immediate area – air, land, water.	Air, direct contact, surface runoff.	Operators will be trained in using road sweepers, and site roads will be damped down in periods of dry weather. Process waters resulting from washdown would be captured on site.	Not likely.	Nuisance, dust on cars and road, contamination of surface water.	Not significant.

4 Conclusions

As presented in this report, the Facility is considered to contain appropriate control measures and management systems to ensure that the changes to the operation of the Facility will not result in any significant impacts upon the local environment.

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