



# **Blue Phoenix Limited**

**EP** Application Supporting Information

ENGINEERING --- CONSULTING

# Document approval

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# **Non-Technical Summary**

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 on 17 September 2018.

Within this application, Blue Phoenix is applying for the following changes to the EP:

- increase the capacity of the Facility from the permitted 320,000 tonnes per annum to 420,000 tpa;
- extend the processing building to allow for more processing equipment to facilitate the proposed increase in processing capacity, resulting in an improvement in quality of the IBAA product; and
- move the water storage tanks and some of the IBA processing storage bays to accommodate the extension of the processing building.

The environmental impact of the associated with the proposed changes have been assessed within the application, and it has been concluded that they will not result in any significant environmental impacts.

Due to the proposed increase in capacity, Blue Phoenix understands that the application should be determined as a Substantial Variation.

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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.

Section 1 of this document provides a brief overview of the application, including the proposed changes and type of variation. Section 2 describes the proposed arrangements for the processing of IBA in further detail. Section 3 considers the environmental impacts associated with the proposed changes to the operation of the Facility. Section 4 provides a summary of whether the proposals represent BAT and the management system associated with the operation of the Facility.

### 1.1 Proposed changes

Within this application, Blue Phoenix is applying for the following changes to the EP:

- increase the capacity of the Facility from the permitted 320,000 tonnes per annum to 420,000 tpa;
- extend the processing building to allow for more processing equipment to facilitate the proposed increase in processing capacity, resulting in an improvement in quality of the IBAA product; and
- move the water storage tanks and some of the IBA processing storage bays to accommodate the extension of the processing building.

## 1.2 Type of variation

The EA's guidance on its Charging Schemes states that there are four types of variations – administrative, minor, normal and substantial.

The EA has published guidance titled '*Environmental permits: when and how you are charged*' which defines a substantial variation. The guidance states that a substantial variation is applicable for waste and installations where an Operator wants to make any changes to an activity that:

- would make that activity a part A(1) activity in its own right for example by increasing the volume of tonnes per hour (or per day) being processed so it reaches the threshold for a part A(1) activity;
- increases the treatment or storage capacity on an existing part A(1) by more than the threshold specified in the Schedule 1 activity description;
- may have significant negative effects on human health or the environment.

The proposed increase in capacity is equivalent to an increase of approximately 275 tonnes per day, on the basis that the Facility is operating for 365 days per annum. The Facility is regulated as a Schedule 1, Section 5.4, Part A(1) (b) (iii) activity as listed in the Environmental Permitting Regulations. The threshold for this activity is 75 tonnes per day. Therefore, the proposed increase in the processing capacity is more than the threshold specified in Schedule 1. On this basis Blue Phoenix acknowledges that the application will be determined as a substantial variation by the EA.

# 2 Changes to IBA Processing

### 2.1 Overview

The Facility consists of the following components:

- IBA processing/treatment building;
- unprocessed IBA stockpile area;
- IBAA storage stockpile areas; and
- an attenuation lagoon.

### 2.2 IBA Reception

All IBA delivered to the Facility is subject to the requirements of the Blue Phoenix's existing waste pre-acceptance and waste acceptance procedures. The arrangements for the pre-acceptance and acceptance of waste will not change from the proposed extension to the Facility. The storage capacity for IBA will also not change.

### 2.3 IBA Processing

Within this application, Blue Phoenix is not proposing to change how the IBA is processed at the Facility. However, the proposed extension to the IBA processing building will allow additional equipment to be installed. The processing equipment will be of a similar type and scale as currently installed and permitted.

At the front end of the process, the increase in the amount of processing equipment will allow the processed IBA to be separated into four differently sized fractions at an increased processing speed.

The separated fractions will then continue to the extraction of non-ferrous and ferrous metals. The current process utilises existing eddy current separators to separate out non-ferrous metals. Additional eddy current separators will be installed within the extended building. This will enable both an increase in the extraction speed and recovery rate of non-ferrous metals, consequently increasing the quality of the IBAA.

In addition, virgin aggregate will be blended into the IBAA to produce IBAA products. This is already undertaken on-site as part of the existing operations.

To accommodate for the building extension, the water storage tanks will move further south and some of the storage bays will move further east of the IBA processing building. Refer to Appendix A.

Following implementation of the proposed changes to the Facility, the storage area for IBAA will be reduced. This will reduce the overall site storage capacity from approximately 430,000 tonnes to 412,000 tonnes.

# 3 Environmental Risk Assessment

### 3.1 Emissions to air

The only potential emissions to air from the operation of the Facility are fugitive emissions of dust. The changes to the processing of IBA will not require any additional dust abatement/suppression measures. Whilst the proposed variation increases the throughput, the existing dust suppression systems will continue to provide appropriate dust abatement. As such, it is not proposed to update the Dust Management Plan as there will be no changes to the dust abatement measures.

### 3.2 Emissions to water and sewer

There are no emissions to sewer from the Facility. The proposed changes to the operations associated with the proposed variation will not result in any changes to the volume or composition of the effluent discharged to water. The existing surface water management arrangements for the existing land within the installation boundary will be retained and will continue to manage run-off from these areas.

Notwithstanding this, the H1 assessment tool has been completed to determine the impact of emissions to water from the Facility and is presented in Appendix C.

In completing this H1 assessment, it should be noted:

- There is a problem with the latest version of the H1 assessment tool and it does not allow Operators to correctly assess the impact of emissions to water/sewer. Therefore, the assessment has been undertaken using a previous version of the tool (v2.78).
- Due to there being no changes to the volume of composition of the effluent discharged to water, the data inputted is the same as the data used for the original permit application (EPR/QP3034JW).

The following substances are assessed:

- arsenic;
- cadmium and its compounds;
- chloride;
- chromium III (95%ile) (dissolved);
- copper;
- lead and its compounds;
- mercury and its compounds;
- nickel and its compounds; and
- zinc.

Test 1 assesses the process contributions of emissions to water. Where the concentration of the substances released are less than 10% of the EQS, they can be screened out as insignificant.

The results of the long-term impacts assessed by Test 1 are presented in Table 1.

Table 1: Results of H1 Assessment – Annual Avg EQS, Test 1

Substance	Long-term (Annual Avg EQS)		
	Release conc (µg/l)	EQS (µg/l)	Release <10% EQS
Arsenic	2.50	50.00	Pass

Substance	Long-term (Annual Avg EQS)				
	Release conc (µg/l)	EQS (µg/l)	Release <10% EQS		
Cadmium and its compounds	0.60	0.25	Fail		
Chloride	742500.00	250000.00	Fail		
Chromium III (95%ile) (dissolved)	11.00	4.70	Fail		
Copper	30.00	1.00	Fail		
Lead and its compounds	1.00	1.20	Fail		
Mercury and its compounds	0.90		N/A		
Nickel and its compounds	1.70	4.00	Fail		
Zinc	7.00	10.90	Fail		

The results of the short-term impacts assessed by Test 1 are presented in Table 2.

Table 2: Results of H1 Assessment – MAC EQS, Test 1

Substance	Short-term (MAC EQS)				
	Release conc (µg/l)	EQS (µg/l)	Release <10% EQS		
Arsenic	3.20		N/A		
Cadmium and its compounds	1.80	1.50	Fail		
Chloride			N/A		
Chromium III (95%ile) (dissolved)	21.00	32	Fail		
Copper	60.00		N/A		
Lead and its compounds	1.00	14.00	Pass		
Mercury and its compounds	1.10	0.07	Fail		
Nickel and its compounds	2.50	34.00	Pass		
Zinc	11.00		N/A		

As presented in Table 1 and Table 2, from Test 1 the following impacts can be screened as insignificant:

- arsenic (long term)
- lead (short term); and
- nickel (short term).

Therefore, for the pollutants which do not screen as insignificant, Test 2 of the H1 assessment has been applied. Test 2 assesses the process contribution (PC). Emissions with PCs that are less than 4% of the EQS are screened out as insignificant.

The results of the long-term impacts assessed by Test 2 are presented in Table 3.

Substance	Long-term (Annual Avg EQS)				
	Annual Avg EQS (μg/l)	PC (µg/l)	% PC of EQS	PC < 4% of EQS?	
Cadmium and its compounds	0.2500	0.0069	2.7600	Pass	
Chloride	250,000.0000	8,524.6000	3.4100	Pass	
Chromium III (95%ile) (dissolved)	4.7000	0.1263	2.6900	Pass	
Copper	1.0000	0.3444	34.4400	Fail	
Lead and its compounds	1.2000	0.0115	0.9600	Pass	
Mercury and its compounds		0.0103		Pass	
Nickel and its compounds	4	0.0195	0.49	Pass	
Zinc	10.9000	0.0804	0.7400	Pass	

Table 3: Results of H1 Assessment – Annual Avg EQS, Test 2

The results of the short-term impacts assessed by Test 2 are presented in Table 4.

Table 4: Results of H1 Assessment – MAC EQS, Test 2

Substance		Short-term	(MAC EQS)	
	MAC EQS (µg/I)	PC (µg/l)	% PC of EQS	PC < 4% of EQS?
Cadmium and its compounds	1.5000	0.0207	1.3800	Pass
Chloride		12,629.0370		Pass
Chromium III (95%ile) (dissolved)	32.0000	0.2411	0.7540	Pass
Copper		0.6889		Pass
Lead and its compounds	14.0000	0.0115	0.0821	Pass
Mercury and its compounds	0.0700	0.0126	18.0000	Fail
Nickel and its compounds	34.0000	0.0287	0.0845	Pass
Zinc		0.1263		Pass

As can be seen from Test 2, refer to Table 3 and Table 4, the long-term impact of copper and the short-term impact of mercury and its compounds cannot be screened out as insignificant. On this basis, the H1 assessment has progressed to Test 3, 4a and 4b.

Test 3 assesses Predicted Environmental Concentrations (PEC) in relation to the background pollutant levels and the AA (long-term impacts). Test 4a assesses PECs in relation to the background pollutant levels and the AA EQS (short-term impacts). Test 4b assesses PECs in relation to the

background pollutant levels and the MAC EQS (short-term impacts). Substances that pass all 3 of these tests can be screened out.

The results of the long-term impacts assessed by Test 3 are presented in Table 5.

Table 5: Results of H1 Assessment – Annual Avg EQS, Test 3

Substance	Long-term (Annual Avg EQS)				
	Background Conc. (μg/l)	PC (µg/I)	PEC (µg/l)	(PEC-BC)/EQS	PEC-BC>10% AA EQS?
Copper	0.5000	0.3450	0.8450	34.4%	Fail
Mercury and its compounds	0.0350	0.0104	0	-	Pass

The results of the short-term impacts assessed by Test 4a and 4b are presented in Table 6.

Table 6: Results of H1 Assessment – MAC EQS, Test 4a and 4b

Substance					Short-ter	m (MAC EQS)
	Test 4a					Test 4b
	% PEC of EQS	PEC > 100% AA	PC (µg/l)	PEC (µg/l)	% PEC of MAC	PEC > 100% MAC
Copper	84.5%	Pass	0.6890	0	-	Pass
Mercury and its compounds	-	Pass	0.0127	0.0477	68.0	Pass

As can be seen from Table 5 and Table 6, mercury and its compounds passed all three tests and so can be screened out as insignificant.

However, as can be seen from Table 5 and Table 6, whilst copper passes Tests 4a and 4b, it fails on Test 3. Therefore, the impact of copper does not screen out as insignificant. However, it is noted that the volumes or the concentrations of the emissions to water from the Facility will not be changing from the existing EP.

Therefore, whilst the impact of copper cannot be screened as insignificant, it is understood that the impact is not significant as the EA has already granted an EP for the existing discharge and it will not be changing. As such, it is considered that the copper released to surface water is at an acceptable level.

#### 3.3 Noise

Noise impacts associated with the changes in the design and layout of the Facility have been considered within the Environmental Risk Assessment, refer to Appendix B. As set out in the Environmental Risk Assessment, the proposed changes of the building/processing equipment are not expected to result in additional noise impacts.

Furthermore, it is worth noting that the EP does not require Blue Phoenix to implement a Noise Management Plan. Therefore, noise impacts from the existing facility are not considered to be significant.

### 3.4 Odour

The proposed changes of the building/processing equipment are not expected to result in any additional odour impacts.

#### 3.5 Fire prevention

In accordance with the Environment Agency guidance titled '*Fire prevention plans: environmental permits*', a Fire Prevention Plan is required for all waste treatment facilities which accept any amount of combustible waste. Whilst the Facility will process wastes, the wastes which it processes is the non-combustible residue generated by waste incineration plants. Therefore, a Fire Prevention Plan is not required for the Facility.

#### 3.6 Ground conditions

Blue Phoenix is not proposing to extend the permit boundary, and the proposed variation will not result in any hazardous substances being stored at the Facility. Therefore, it is not proposed to update the Site Condition Report with this application.

### 3.7 Ecology

It is understood that the following designated habitats features are within the EA's relevant screening criteria.

<b>0</b>	
Designation	Name
Site of Specific Scientific Interest (SSSI)	Fairburn and Newton Ings
Local Nature Reserve (LNR)	Well Wood
Local Wildlife Site (LWS)	Well Wood
	Fryston Park
	Bank of River Aire, Fairburn - Brotherton
	Former Fryston Colliery
	Frog Hall Quarry
	Bryam Park
	Bryam Park (Part in Brotherton)
	Orchard Head

Table 7: Designated habitat features

It is understood that the habitat features within Fairburn and Newton Ings SSSI are highly sensitive to inorganic fertilisers and pesticides. The proposed changes to the Facility will not result in the release of inorganic fertilisers and pesticides.

Whilst Blue Phoenix is proposing to increase the throughput of the Facility, there are no proposed changes to the IBA processing activities, or the associated dust abatement measures. On this basis, it is not expected that the proposed changes will result in an increase in fugitive dusts which could cause smothering of the sensitive habitat features.

The proposed extension to the IBA processing building means that IBA processing operations will continue to take place within an enclosed building, resulting in noise impacts being screened

through the building, refer to section 3.3. Therefore, noise impacts will not have a significant impact on the local habitats.

On this basis, the proposed changes will not result in an increase in impacts upon ecological features.

#### 3.8 Flood

From review of the EA's '*Flood map for planning*', it can be confirm that the proposed extension to the IBA processing building is outside of any flood zones. Whilst a small area at the southeast of the site is in flood zone 2 and 3, this area of the site is the entrance for the Site and is also used by vehicles for turning/movement purposes. Therefore, this area will not be used for the storage, handling, and/or processing of IBA/IBAA.

Therefore, the proposed changes will not result in any additional risk of flooding. Furthermore, in the event of a flood in the local are, the flooding will not extend to the areas used for the storage and handling of IBA/IBAA.

### 3.9 Management Systems

Even though the proposed changes will be classified as a substantial as set out within section 3, the changes will not result in any changes to the environmental impacts associated with the operation of the Facility.

The proposed changes will not require any changes to the existing management systems, and the existing EMS will continue to be applied at the Facility.

# 4 The Legislative Framework

### 4.1 Requirements of the Waste Incineration BREF

The Waste incineration (WI) BREF BAT conclusions were published by the European IPPC Bureau in December 2019. Waste incineration plants, and associated IBA treatment facilities are required to demonstrate that they meet the requirements of the BREF when applying for an EP. As such, Table 8 identifies the relevant requirements of the Best Available Techniques (BAT) conclusions as set out in the BREF and explains how the Facility will comply with them.

#	BAT Conclusion	How met or reference
23	In order to prevent or reduce diffuse dust emissions to air from the treatment of slags and bottom ashes, BAT is to include in the EMS the diffuse dust emission management features as given in BAT 21 of the WI BREF.	The IBA facility will be operated in accordance with the existing permitted Dust Management Plan (DMP) which sets out the measures to mitigate emissions of dust. As set out within the DMP, the measures include the dampening of the stockpiles of IBA/IBAA to minimise the fugitive emissions from the IBA facility. The existing DMP is considered sufficient in controlling any dust emissions that may arise from the proposed changes.
24	In order to prevent or reduce diffuse dust emissions to air from the treatment of slags and bottom ashes,	Blue Phoenix has incorporated the following techniques within the design and layout of the Facility:
	BAT is to use an appropriate combination of the techniques as given in BAT 24 of the BREF.	• Enclose and cover equipment – all IBA processing will be undertaken within an enclosed IBA processing building.
		• Use of water sprays – Rain guns are located around the Site for dust suppression. It is a comprehensive system of spray nozzles and covers the loading, unloading and storage areas. The design and location of the rain guns has been determined to ensure an arc coverage of all IBA and IBAA storage areas/stockpiles.
		The existing dust suppression measures are sufficient in reducing dust emissions that may arise from the proposed variation.
26	In order to reduce channelled dust emissions to air from the enclosed treatment of slags and bottom	There are no plans to install a dust extraction unit within the treatment system. Prior to transfer of the IBA to the IBA Facility, the EfWs where the IBA is generated will quench the IBA in a water bath. While the IBA is onsite, it is monitored in accordance with the

Table 8: Summary table for WI BREF BAT conclusions compliance

#	BAT Conclusion	How met or reference
	ashes with extraction of air, BAT is to treat the extracted air with a bag filter.	requirements of the dust management plan. If required, the dust suppression system dampens down the site and the material stockpiles.
34	In order to reduce emissions to water from FGC and/or from the storage and treatment of slags and bottom ashes, BAT is to use an appropriate combination of the techniques as listed in BAT 34 of	The existing surface water management arrangements for the existing land within the installation boundary will be retained and will continue to manage run-off from these areas.
	the BREF, and to use secondary techniques as close as possible to the source in order to avoid dilution.	The H1 assessment has concluded that the quality of the surface water runoff will be suitable for controlled discharge to the Fryston Brook without any need for treatment, other than the settlement of suspended solids.
		Surface water runoff enters the attenuation lagoon via a primary catchpit which is designed to trap silt. Water will then flow through three further chambers as follows:
		• A secondary catchpit designed to trap any silt that is not trapped by the primary catchpit.
		<ul> <li>An oil interceptor, designed with a baffle arrangement, to trap hydrocarbons.</li> </ul>
		Thereafter it will be discharge to the Fryston Brook.
36	In order to increase resource efficiency for the treatment of slags and bottom ashes, BAT is to use an appropriate combination of the techniques as listed in BAT 36 of the BREF, based on a risk assessment depending on the hazardous properties of the slags and bottom ashes.	The Facility will implement all of the measures listed within BAT 34 to increase the resource efficiency from the treatment process.

### 4.2 Appropriate Measures

The EA requires incinerator bottom ash treatment facilities to comply with the 'Non-hazardous and inert waste: appropriate measures for permitted facilities'. A review of the appropriate measures is presented in Table 9.

*Table 9: Compliance with non-hazardous and inert waste appropriate measures.* 

Appropriate Measure	How met or referenced
2 General management appropriate measures	
<b>2.1 Management system</b> The facility must have and follow an up-to-date written management system, as according to the appropriate measures.	The Facility has implemented an existing documented environmental management system (EMS) which has been accredited to ISO 14001. This will be extended to include the proposed IBA processing building extension requested within the application.
2.2 Staff competence	As a part of the Facility's existing EMS, all staff are provided with
The facility must be operated by staff with appropriate training, qualifications and competence. Records of training, qualifications and relevant experience must be kept.	appropriate training to ensure their competence.
2.3 Accident management plan	As a part of the Facility's existing EMS, an accident management plan is in
The written management system must include an accident management plan, as according to the appropriate measures.	place.
2.4 Contingency plan and procedures	As a part of the Facility's existing EMS, a contingency plan and associated
The facility must implement a contingency plan, as according to the appropriate measures.	procedures are in place.
2.5 Facility decommissioning	The Facility has an existing site closure plan.
A decommissioning plan must be considered, implemented, and maintained. For existing facilities where potential risks are identified, a programme of design improvements must be implemented.	
3 Waste pre-acceptance, acceptance and tracking	
3.1 Waste pre-acceptance	Point 4, 6, 7 is not relevant to the operation of the Facility.

Appropriate Measure	How met or referenced
Waste pre-acceptance procedures must be implemented, as according to the appropriate measures.	• Blue Phoenix has existing waste acceptance procedures, which include pre-acceptance requirements. These will be extended to include the additional area and activities requested within the application.
	• The waste acceptance procedures include a requirement to supply the Non-Hazardous WM2 paperwork which is supplied from the waste producer. The waste will only be retained and processed if it is suitable to be processed at the Facility. If not, it will be rejected and returned to the waste producer.
	• All waste is received with an accompanying consignment note which includes the relevant requirements within the appropriate measures. Furthermore, in accordance with the waste acceptance procedures the following information is recorded: supplier, date, place of origin, quantity by weighing/volume, and carrier.
	• Analysis of samples is carried out by UKAS/MCERTs accredited laboratories.
	• No additional EWC codes are proposed for acceptance to the Site.
	Blue phoenix retains pre-acceptance records for all incoming IBA for more than three years.
3.2 Waste acceptance	Refer to section 2.2.
Waste acceptance procedures must be implemented, as according to the appropriate measures.	• Blue Phoenix has existing waste acceptance procedures. These will be extended to include the additional area and activities requested within the application.
	<ul> <li>In accordance with the waste acceptance procedures:</li> </ul>
	• The Facility's overall storage capacity is continuously monitored. Waste is only accepted on Site if there is sufficient storage capacity.
	<ul> <li>Waste is visually inspected before being accepted.</li> </ul>
	• Transfer documentation is checked and validated before waste is accepted on to Site.

Appropriate Measure	How met or referenced
	• Waste containing unburnt material will be rejected in quarantine, pending collection.
	<ul> <li>Incoming IBA is weighed at weighbridges on arrival and recorded.</li> </ul>
	• As per current operations, the staff carrying out waste acceptance checks are competent and trained.
	• Offloading and reception areas are located on an area of hardstanding with self-contained drainage.
3.3 Quarantine	• Refer to Appendix A.
The facility must have a dedicated waste quarantine area/s. They must be operated as according to the appropriate measures.	• Blue Phoenix has an existing waste acceptance and storage procedure which outlines how Blue Phoenix manage loads not meeting the Site's Waste Acceptance Criteria. No changes are proposed to waste quarantine procedures employed at the Site.
<b>3.4 Waste tracking</b> A waste tracking record system must be used, as according to the appropriate measures.	Blue Phoenix has existing waste acceptance and storage procedures for the tracking of waste throughout its lifetime on the Site, as according to the appropriate measures. The procedures will be extended to include the proposed IBA processing building extension requested within the application.
4 Waste Storage	
4.0	• Point 8, 9, and 10 are not relevant to the operation of the Facility.
The facility must conduct waste storage in line with the appropriate measures.	• As part of the existing EMS, Blue Phoenix maintains an inventory of the waste streams generated at the existing Facility, a waste acceptance criteria and procedure, and a waste transfer procedure. These will be extended to include the additional area and activities requested within the application.
	• The layout of the Facility has been designed to minimise the unnecessary handling of waste.
	• Waste handling is carried out by competent staff using appropriate equipment (refer to section 6.1 of the Supporting Information).

Appropriate Measure	How met or referenced
	• The Facility is enclosed by fencing and has restricted access via Kirkhaw Lane.
	• The Site's stockpile volumes are based on the maximum pile heights agreed through the planning process which have been integrated into Blue Phoenix's EMS. As such, the existing management system clearly documents the maximum storage capacity of facility and designated storage areas.
	• As per current operations, all waste storage areas are clearly marked and signed to indicate the type of waste stored.
	<ul> <li>As per current operations, wastes will not accumulate.</li> </ul>
	• As per current operations, storage bays are cleared thoroughly on a regular basis.
	• As per current operations, storage areas and infrastructure are regularly inspected and recorded to ensure that there is no loss of containment.
<b>4.1 Segregation</b> Different types of waste should be kept segregated if contamination would inhibit the recovery of the waste. Where paper, plastic, metal or glass have been collected separately, they must not be mixed with other waste or material.	• As per current operations, IBA, ferrous and non-ferrous metals, and IBAA are stored in separate stockpiles.
5 Waste treatment	
<ul> <li>5.0</li> <li>The waste treatment process must be monitored and optimised.</li> <li>Emissions from the waste treatment process must be identified and appropriately controlled at the source.</li> <li>There must be accurate and up-to-date written details of: treatment activities, abatement, control equipment, characteristics of the waste to be treated, and the waste treatment process.</li> </ul>	<ul> <li>As per current operations, the waste treatment process is monitored and optimised. The Facility will implement all of the measures listed within BAT 34 to increase the resource efficiency from the treatment process.</li> <li>At the pre-acceptance stage, waste that is considered unacceptable (i.e. the content of deleterious material is too high) will be rejected and quarantined. As such, unwanted/unsuitable material is prevented from entering the IBA treatment process.</li> </ul>

Appropriate Measure	How met or referenced
There must be up-to-date written details of the measures to be taken during abnormal operating conditions to ensure that the Facility	• As part of the existing EMS, Blue Phoenix keeps accurate and up-to-date written details of the following:
continues to comply with the permit conditions.	treatment activities;
	• abatement;
	<ul> <li>control equipment;</li> </ul>
	<ul> <li>characteristics of the waste to be treated; and</li> </ul>
	<ul> <li>the waste treatment process.</li> </ul>
	• Blue Phoenix will extend this to incorporate the operation to the entire Facility.
	• As part of the existing EMS, Blue Phoenix has abnormal operating condition measures. These will extend to include the additional area and activities requested within the application.
<b>5.1 Soils and inert waste</b> Soil and aggregate washing outputs must be categorised as set out in Technical Guidance WM3.	The Facility will not be washing soil and/or aggregate. Therefore, this appropriate measure is not applicable.
5.2 Waste treatment outputs, including fines	The IBAA is appropriately classified following WM3.
Outputs must be appropriately classified following WM3. Any hazardous waste taken from the facility must be consigned following the EA's 'Dispose of hazardous waste' guidance. Appropriate measures must be implemented to prevent and minimise risks of pollution from non-waste and waste materials.	All materials transferred out of the Facility are delivered by road within enclosed or covered vehicles to reduce dust emissions.
<b>5.3 Waste treatment for landfill</b> If waste is being handled or treated before being sent to landfill, the facility must follow the EA's 'Dispose of waste to landfill' guidance.	The Facility will not be handling or treating waste to be sent to landfill. Therefore, this appropriate measure is not applicable.
6 Emissions control	
<b>6.1 Enclosure within buildings</b> If appropriate to the Facility, activities can be undertaken in enclosed buildings, as according to the appropriate measures.	All IBA processing will be undertaken within an enclosed IBA processing building.

Appropriate Measure	How met or referenced
<ul> <li>6.2 Point source emissions to air</li> <li>Point source emissions to air must be reduced, as according to the appropriate measures.</li> <li>An assessment of the fate and impact of the substances emitted to air must be made, as according to the EA's 'Risk assessments for your environmental permit' guidance.</li> </ul>	There are no point source emissions to air. Therefore, this appropriate measure is not applicable.
<b>6.3 Fugitive emissions to air</b> Fugitive emissions to air (including dust, mud and litter, odour and noise and vibration) must be prevented and minimised, as according to the appropriate measures.	<ul> <li>The Facility has an existing DMP that sufficiently minimises and prevents fugitive dust emissions. The existing EP does not require Blue Phoenix to implement a Noise Management Plan at the existing facility. IBA is not inherently odorous and so does not require an Odour Management Plan, as stated in the existing EP.</li> <li>Blue Phoenix's existing waste pre-acceptance and acceptance procedures identifies and manages waste that could cause fugitive emissions to air.</li> <li>The Facility has an existing maintenance programme which will continue with the proposed variation.</li> <li>Refer to section 3.1.</li> </ul>
<b>6.4 Point source emissions to water (including sewer)</b> Point source emissions must be controlled, as according to the appropriate measures.	<ul> <li>As a part of the Facility's inventory of emissions, main chemical constituents of point source emissions to water are identified.</li> <li>Process effluents are discharged to Royles Brook.</li> <li>The impact of released substances to surface water are not significant, refer to Appendix C.</li> <li>The Facility requires a significant volume of water for dust suppression and processing purposes. The water used within the process is primarily supplied by rainwater and supplemented with mains water. Run-off from processing areas is collected for re-use. On this basis, it is not appropriate</li> </ul>

Appropriate Measure	How met or referenced
	to have separate systems for the collection of surface water run-off and process effluent.
	Refer to section 3.2.
<b>6.5 Fugitive emissions to land and water</b> Fugitive emissions must be controlled, as according to the appropriate measures.	There are no fugitive emissions to land and water. Therefore, this appropriate measure is not applicable.
6.6 Pests	The activities on Site are not considered to give rise to pests. Therefore.
A pest management plan must be created, implemented, and regularly reviewed as according to the appropriate measures.	this appropriate measure is not applicable.
7 Emissions monitoring and limits	
<b>7.1 Emissions to air</b> Emissions to air must be monitored, as according to the appropriate	• There are no point source emissions to air. As such, the Facility does not require an emissions inventory as according to this appropriate measure.
measures.	• In accordance with Blue Phoenix's existing dust management plan (DMP), fugitive emissions of dust and particulates are monitored, which will continue with the proposed variation.
	• The existing dust management plan describes a monitoring programme, which will continue with the proposed variation.
<b>7.2 Medium combustion plant directive</b> If you operate a medium combustion plant, emissions must be monitored following the EA's 'Monitoring stack emissions: low risk MCPs and specified generators' guidance.	The Facility is not a medium combustion plant. Therefore, this appropriate measure is not applicable.
<b>7.3 Emissions to water and sewer</b> Emissions to water and/or sewer must be monitored, as according to the appropriate measures.	As per current operations, the Facility's emission inventory includes information about the relevant characteristics of point source emissions to water and sewer, as according to the appropriate measures. Key process parameters are monitored at the appropriate locations and it is not proposed that these will change with the proposed variation.

Appropriate Measure	How met or referenced
8 Process efficiency appropriate measures	
<b>8.1 Energy efficiency</b> As according to the appropriate measures, an energy efficiency plan and energy balance record must be created, implemented, and regularly reviewed and updated	Blue Phoenix has an existing energy efficiency plan and energy balance record that will extend to incorporate the operation to the entire Facility. The Facility is designed with insulation and containment methods to avoid gross energy inefficiencies
Measures must be in place to avoid gross energy inefficiencies. Operating, maintenance and housekeeping measures must be in place.	Where relevant, the Facility is designed in accordance with the 'Energy efficiency standards for industrial plants to get environmental permits' guidance.
Additional efficiency measures should be implemented, as according to the 'Energy efficiency standards for industrial plants to get environmental permits' guidance.	
<b>8.2 Raw materials</b> As according to the appropriate measures, raw materials must be listed alongside their properties, regularly reviewed, justified, and have quality assurance procedures.	As part of the existing EMS, Blue Phoenix monitors the annual raw material consumption. Blue Phoenix will extend this to incorporate the operation of the entire Facility.
<b>8.3 Water use</b> As according to the appropriate measures, water consumption must be measured, optimised, reviewed, reused, and reduced where appropriate.	As part of the existing EMS, Blue Phoenix measures, optimises, reviews, reuses, and reduces water consumption where relevant and as according to the appropriate measures. Blue Phoenix will extend this to incorporate the operation of the entire Facility.
9 Waste minimisation, recovery and disposal	
<b>9.0</b> You must have and implement a residues management plan, as according to the appropriate measures.	As part of the existing EMS, Blue Phoenix has and implements a residue management plan, as according to the appropriate measures. Blue Phoenix will extend this to incorporate the operation of the entire Facility.



# A Plans & Drawings

# **B** Environmental Risk Assessment



# C H1 Assessment

# ENGINEERING --- CONSULTING



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