

## **Permit with introductory note**

The Environmental Permitting (England & Wales) Regulations 2016

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Befesa Salt Slags Limited

Whitchurch Salt Slags  
Fenns Bank  
Whitchurch  
Shropshire  
SY13 3PA

Permit number  
EPR/VP3030BX

# Whitchurch Salt Slags

## Permit number EPR/VP3030BX

### Introductory note

**This introductory note does not form a part of the permit**

Befesa Salt Slags Limited operate an installation for the primary purpose of the production of aluminium oxide. The site produces aluminium solids, ammonium sulphate, sodium, potassium chlorides and aluminium oxides recovered from aluminium salt slag and spent pot liner from the aluminium smelting industry.

The plant has a processing capacity of 270 tonnes of salt slag per day and 110 tonnes of spent pot liner per day on a 24 hour, 48 week basis. There are seven point source emissions to air and no emissions to surface water, ground water, sewer or land. All parts of the process with the potential to produce dust are enclosed and connected to the Local Exhaust Vent (LEV) system and dust filtration units.

The chemical plant is served by a dedicated LEV and acid scrubbing system to minimise emissions of ammonia. The installation operates one steam raising boiler with a thermal input of 6.5MW. The installation is not connected to natural gas, instead using primarily LPG as its selected fuel with Kerosene as an optional alternative.

The site employs odour and noise suppressing techniques on site to minimise any potential impacts.

The status log of the permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	Date	Comments
Application VP3030BX	Duly made 05/07/05	
Response to request for information	Request dated 02/02/06	Response dated 24/02/06
Additional information received in relation to the ammonium sulphate storage lagoon	19/08/05	
Request to extend determination	Request dated 17/01/06	Request accepted 23/01/06
Request to extend determination	Request dated 26/04/06	Request accepted 27/04/06
Permit determined	28/07/06	
Variation EPR/VP3030BX/V002	Duly made 19/05/08	
Schedule 5 notice issued	23/05/08	Request accepted 23/07/08

**Status log of the permit**

Description	Date	Comments
Additional information received in relation to BAT for proposed activities	21/07/08	
Additional information received in relation to environmental impact of proposed activities	26/08/08	
Additional information received in relation to ferrocyanide emissions	18/08/08	
Additional information received in relation to fluoride emissions	19/08/08	
Additional information received in relation to fluoride impacts during SPL Cut 1 processing	26/08/08	
Email received in relation to foundry sand EWC codes	09/10/08	
Email received in relation to Spent Pot Liner EWC codes	09/10/08	
Additional information received in relation to fluoride emissions and scrubber operation	13/10/08	
Request to extend determination	Request dated 22/10/08	Request accepted 27/10/08
Additional information – air quality impact assessment report by REC ref. 70988p3r0 dated 31/10/08	Received 10/11/08	
Request received to amend proposed operating conditions	14/11/08	
Request to extend determination	Request dated 10/12/08	Request accepted
Request to extend determination	Request dated 11/02/09	Request accepted
Variation issued	14/04/09	
Environment Agency variation determined EPR/VP3030BX/V003	25/03/13	Agency variation to implement the changes introduced by IED
Natural Resources Wales variation determined EPR/VP3030BX/V004	10/02/16	NRW Initiated Variation and consolidation issued.
Regulation 61 Notice issued	25/07/16	Notice issued to the Operator
Regulation 61 Notice response	31/10/16	Response from Operator
Further information received.	06/07/17	New site plan included and Improvement Conditions updated
Natural Resources Wales variation determined EPR/VP3030BX/V005	27/07/17	NRW Initiated Variation and consolidation issued

**Status log of the permit**

Description	Date	Comments
Information received from Operator	12/12/2017	Information to address improvement conditions IC19 and IC20
Application for variation and consolidation EPR/VP3030BX/V006	Duly Made 24/11/2017	Application to install new aerial scrubbing unit
Additional information received in response to Schedule 5 dated 15/02/2018	02/05/2018	New dispersion modelling report for ammonia
Request to extend determination	Request dated 26/06/2018	Request accepted. New due date is 17/09/2018
Additional information received	21/06/2018	Information to address improvement condition IC22
Variation determined EPR/VP3030BX/V006	14/09/2018	Varied and consolidated permit issued.

End of introductory note

# Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number  
**EPR/VP3030BX**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/VP3030BX/V006 authorising:

**Befesa Salt Slags Limited** (“the operator”),

whose registered office is

**Fenns Bank  
Whitchurch  
Shropshire  
SY13 3PA**

company registration number **04070154**

to operate an installation at

**Whitchurch Salt Slags  
Fenns Bank  
Whitchurch  
Shropshire  
SY13 3PA**

to the extent authorised by and subject to the conditions of this permit.

Name	Date
<b>Holly Noble</b>	<b>14/09/2018</b>

Authorised on behalf of Natural Resources Wales

# Conditions

## 1 Management

### 1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
  - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

### 1.2 Energy efficiency

- 1.2.1 The operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
  - (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
  - (c) take any further appropriate measures identified by a review.

### 1.3 Efficient use of raw materials

- 1.3.1 The operator shall:
- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
  - (b) maintain records of raw materials and water used in the activities;
  - (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
  - (d) take any further appropriate measures identified by a review.

### 1.4 Avoidance, recovery and disposal of wastes produced by the activities

- 1.4.1 The operator shall take appropriate measures to ensure that:
- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and

- (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
  - (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.
- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

## **2 Operations**

### **2.1 Permitted activities**

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).
- 2.1.2 Waste authorised by this permit shall be clearly distinguished from any other waste on the site.

### **2.2 The site**

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

### **2.3 Operating techniques**

- 2.3.1 (a) The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by Natural Resources Wales.
- (b) If notified by Natural Resources Wales that the activities are giving rise to pollution, the operator shall submit to Natural Resources Wales for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.
- 2.3.2 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.3 Waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 tables S2.2, S2.3, S2.4, S2.5, S2.6 and S2.7; and
  - (b) it conforms to the description in the documentation supplied by the producer and holder.

- 2.3.4 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
  - (b) the composition of the waste;
  - (c) the handling requirements of the waste;
  - (d) the hazardous property associated with the waste, if applicable; and
  - (e) the waste code of the waste.
- 2.3.5 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

### **Hazardous waste storage and treatment**

- 2.3.6 Hazardous waste shall not be mixed, either with a different category of hazardous waste or with other waste, substances or materials, unless it is authorised by schedule 1 table S1.1 and appropriate measures are taken.

## **2.4 Improvement programme**

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by Natural Resources Wales.
- 2.4.2 Except in the case of an improvement which consists only of a submission to Natural Resources Wales, the operator shall notify Natural Resources Wales within 14 days of completion of each improvement.

# **3 Emissions and monitoring**

## **3.1 Emissions to water, air or land**

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 table S3.1.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

## **3.2 Emissions of substances not controlled by emission limits**

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

- 3.2.2 The operator shall:
- (a) if notified by Natural Resources Wales that the activities are giving rise to pollution, submit to Natural Resources Wales for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
  - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.
- 3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

### **3.3 Monitoring**

- 3.3.1 The operator shall, unless otherwise agreed in writing by Natural Resources Wales, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in table S3.1
- 3.3.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.3.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.3.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by Natural Resources Wales.
- 3.3.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 table S3.1 unless otherwise agreed in writing by Natural Resources Wales.

### **3.4 Odour**

- 3.4.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of Natural Resources Wales, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.
- 3.4.3 The operator shall:
- (a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to odour, submit to Natural Resources Wales for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
  - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

### **3.5 Noise and vibration**

- 3.5.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of Natural Resources Wales, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.5.2 The operator shall:
- (a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to noise and vibration, submit to Natural Resources Wales for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
  - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

## **4 Information**

### **4.1 Records**

- 4.1.1 All records required to be made by this permit shall:
- (a) be legible;
  - (b) be made as soon as reasonably practicable;
  - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
  - (d) be retained, unless otherwise agreed in writing by Natural Resources Wales, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
    - (i) off-site environmental effects; and
    - (ii) matters which affect the condition of the land and groundwater.
- 4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by Natural Resources Wales.

### **4.2 Reporting**

- 4.2.1 The operator shall send all reports and notifications required by the permit to Natural Resources Wales using the contact details supplied in writing by Natural Resources Wales.
- 4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to Natural Resources Wales by 31 January (or other date agreed in writing by Natural Resources Wales) each year. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;

- (b) the performance parameters set out in schedule 4 table S4.2 using the forms specified in table S4.3 of that schedule.
- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by Natural Resources Wales, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
  - (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
  - (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.3 ; and
  - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to Natural Resources Wales, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.
- 4.2.5 Within 1 month of the end of each quarter, the operator shall submit to Natural Resources Wales using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

## 4.3 Notifications

- 4.3.1 (a) In the event that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
    - (i) inform Natural Resources Wales,
    - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
    - (iii) take the measures necessary to prevent further possible incidents or accidents
  - (b) in the event of a breach of any permit condition the operator must immediately—
    - (i) inform Natural Resources Wales, and
    - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
  - (c) in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed

by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Where Natural Resources Wales has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform Natural Resources Wales when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to Natural Resources Wales at least 14 days before the date the monitoring is to be undertaken.

4.3.4 Natural Resources Wales shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address;  
and
- (b) any steps taken with a view to the dissolution of  
the operator.

In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);
- (b) any change in the operator's name(s) or address(es); and
- (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) Natural Resources Wales shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

4.3.6 Natural Resources Wales shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.3.7 Where the operator has entered into a climate change agreement with the Government, Natural Resources Wales shall be notified within one month of:

- (a) a decision by the Secretary of State not to re-certify the agreement;
- (b) a decision by either the operator or the Secretary of State to terminate the agreement; and

- (c) any subsequent decision by the Secretary of State to re-certify such an agreement.

## **4.4 Interpretation**

- 4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "Immediately", in which case it may be provided by telephone.

# Schedule 1 - Operations

**Table S1.1 activities**

Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
A1	Section 4.2 Part A(1)(a)(v) Producing inorganic chemicals such as non-metals, metal oxides, metal carbonyls, or other inorganic compounds (such as calcium carbide, silicon, silicon carbide, titanium oxide).	Producing ammonium sulphate, sodium and potassium chlorides and aluminium oxides recovered from aluminium salt slag and spent pot liners from the aluminium industry. Chemical Plants 1 and 2.	Chemical Plant 1: reaction and dissolution of salt slag or salt slag and spent pot liner Cut 1 and/or Cut 2, with water to produce aluminium oxide and brine.  Chemical Plant 2: crystallisation plant – removing sodium chloride and potassium chloride from solution.  Conditioning of product to produce oxide.  Wastes as listed in Table S2.2.
A2	Section 5.3 Part A(1)(a)(vi) Disposal or recovery of hazardous waste in a facility with a capacity exceeding 10 tonnes per day involving recycling or reclamation of inorganic materials other than metals or metal compounds.	Recovery of Spent Pot liner Cut 1 by milling prior to shipping off site, and Spent Pot liner cut 1 and 2 by milling prior to treatment in the on-site chemical plant.	Receipt of raw materials, milling.  Hazardous waste must be stored under cover, upon an impermeable surface with a sealed drainage system.  Wastes as listed in Table S2.3.
A3	Section 5.6 Part A(1)(a) Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes pending any of the activities listed in Sections 5.1, 5.2, 5.3 and paragraph (b) of this section, except (i) temporary storage, pending collection, on the site where the waste is generated (ii) Activities falling within Section 5.2.	Storage of dross, salt slag and spent pot liner prior to on-site processing.	Storage through to onward processing or transfer of waste from site  Hazardous waste must be stored under cover, upon an impermeable surface with a sealed drainage system.  Wastes as listed in Table S2.4.
A4	Section 3.5 Part B(a) The crushing, grinding or other size reduction, other than the cutting of stone, or the grading, screening or heating of any designated mineral or mineral product.	Separation of aluminium from dross by milling;  Milling of foundry sand.  Separation of aluminium from slag by milling.  <b>R4:</b> Recycling/reclamation of metals and metal compounds	Milling and grading of drosses to remove aluminium solids  Milling of foundry sand.  Milling of salt slag to produce raw material input to the chemical plant.  Wastes as listed in Table S2.5.

**Table S1.1 activities**

<b>Activity reference 1</b>	<b>Activity listed in Schedule of the EP Regulations</b>	<b>Description of specified activity and WFD Annex I and II operations</b>	<b>Limits of specified activity and waste types</b>
A5	Section 5.3 Part A(1)(a)(iv) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving repackaging prior to submission to any of the other activities listed in this Section or in Section 5.1	Repackaging prior to submission to another S5.3 activity	Bulking up of untreated dross prior to removal from site for processing elsewhere.  Wastes as listed in Table S2.6.
A6	Section 4.3 Part A(1)(a) Producing (including any blending which is related to their production) phosphorus-, nitrogen- or potassium-based fertilisers (simple or compound fertilisers).	Manufacture of urea/ammonium sulphate fertiliser	Adding urea to ammonium sulphate prior to transport off site.
<b>Directly Associated Activity</b>			
A7	Boiler plant	-	LPG or kerosene fuelled 6.5MW thermal input
A8	Storage of non-hazardous materials	-	Receipt and storage of non-hazardous wastes for processing
A9	Storage of raw materials	-	Storage of raw materials in the Wardle Shed
<b>Description of activities for waste operations</b>		<b>Limits of activities</b>	
A10	Recovery of non-hazardous SPL Cut 1 (EWC code 16 11 04) by milling prior to shipping off site		Milling of Spent Pot Liner Cut 1 -
A11	D14 - Repackaging prior to submission to any of the operations numbered D1 to D13 D15 - Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)  R12 - Exchange of wastes for submission to any of the operations R1 to R11 R13 - Storage of wastes pending any of the operations R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced).		Bulking up of untreated dross prior to removal from site for processing elsewhere.  Wastes as listed in Table S2.7.

**Table S1.2 Operating techniques**

<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Application	The response to questions 2.1 and 2.2 found on pages 11 to 35 of the Application	05/07/05
Additional information received in relation to the ammonium sulphate lagoon	All parts	19/08/05
Response to request for additional information	Response relation to monitoring methods in use	24/02/06
Application for Variation	Section C2	14/04/08
Response to Schedule 5 request issued 23/05/08	All	23/07/08
Request received to amend proposed operating conditions	All	14/11/08
Request to increase percentage SPL Cut 2 in process	All - Agreed on 08/02/11	26/01/11
Request to install new decanters	All - Agreed 14/03/11	28/02/11
Response to request made during inspection to provide details of changes made to reduce fugitive emissions	All parts of e-mail received	25/08/11
Request to install new belt press	All - Agreed 04/07/12	27/06/12
Operating techniques document	All	23/10/17
Environmental Risk Assessment	All	23/10/17
Odour Management Plan	All	23/10/17
Management Systems	All	23/10/17
Monitoring document	All	23/10/17
Resource Efficiency document	All	23/10/17

**Table S1.3 Improvement programme requirements**

<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC1 - IC16	-	Completed
IC17	The operator must provide details of the waste classification used in relation to Aluminium Oxide for disposal to landfill	Completed
IC18	The operator must undertake a study, including a CCTV survey to demonstrate that the onsite drainage system is fully contained. The operator must then submit a written report detailing the findings of the study, along with any improvement works, to Natural Resources Wales for approval.	Completed
IC19	The Operator shall undertake detailed air dispersion modelling of ammonia emissions from the current chemical scrubbers on site, stacks A2, A5 and A6. The modelling shall include data from recent quarterly extractive monitoring. A report shall be forwarded to Natural Resources Wales detailing the findings of this modelling.	Completed
IC20	Where chemical species described in Table S3.1b alongside Best Available Techniques Associated Emission Levels (BAT AELs) have not historically been monitored, the Operator shall conduct an assessment of the emissions against BAT for approval by Natural Resources Wales.	Completed

**Table S1.3 Improvement programme requirements**

Reference	Requirement	Date
IC21	The Operator shall carry out a review of BAT for the Aluminium Oxide loading process. This will follow the implementation of the new scrubber unit to the emission point serving the Interim BFA Storage area. A report detailing BAT and actions to meet BAT will be submitted to Natural Resources Wales within 6 months of the scrubber commissioning. The date of submission will be no later than 01/07/2019	01/07/2019
IC22	<p>The Operator shall submit for approval by Natural Resources Wales a report setting out progress to achieving the BAT conclusions and BAT AELs where BAT is currently not achieved but will be achieved by the 30th June 2020. The report shall include but not be limited to the following:</p> <ol style="list-style-type: none"><li>1. Current performance against the BAT conclusions and BAT AELs</li><li>2. Methodology for reaching the AELs</li><li>3. Associated targets/timelines for reaching compliance by 30th June 2020</li></ol> <p>The report shall address all of the relevant BAT conclusions.</p>	Complete

## Schedule 2 – Waste types, raw materials and fuels

**Table S2.1 Raw materials and fuels**

Raw materials and fuel description	Specification
None specified	-

**Table S2.2 Permitted waste types and quantities for chemical treatment – Activity A1**

Maximum quantity	Up to 90,720t salt slag per year (up to 1,200t per day); up to 36,000t year spent pot liner (up to 300 per day)
Waste code	Description
<b>10</b>	<b>WASTES FROM THERMAL PROCESSES</b>
<b>10 03</b>	<b>wastes from aluminium thermal metallurgy</b>
10 03 08*	salt slags from secondary production
<b>16</b>	<b>WASTES NOT OTHERWISE SPECIFIED IN THE LIST</b>
<b>16 11</b>	<b>Waste linings and refractories</b>
16 11 01*	carbon-based linings and refractories from metallurgical processes containing hazardous substances
16 11 03*	other linings and refractories from metallurgical processes containing hazardous substances

**Table S2.3 Permitted waste types and quantities for milling of spent pot liner – Activity A2**

Maximum quantity	450 tonnes per day – no more than 5,000 tonnes to be stored at any one time
Waste code	Description
<b>16</b>	<b>WASTES NOT OTHERWISE SPECIFIED IN THE LIST</b>
<b>16 11</b>	<b>waste linings and refractories</b>
16 11 01*	carbon-based linings and refractories from metallurgical processes containing hazardous substances
16 11 03*	other linings and refractories from metallurgical processes containing hazardous substances
16 11 04	other linings and refractories from metallurgical processes other than those mentioned in 16 11 03

**Table S2.4 Permitted waste types and quantities for storage of Hazardous Waste – Activity A3**

Maximum quantity	15,000t salt slag, 5,000t spent pot liner, 3,000t dross per day
Waste code	Description
<b>10</b>	<b>WASTES FROM THERMAL PROCESSES</b>
<b>10 03</b>	<b>wastes from aluminium thermal metallurgy</b>
10 03 08*	salt slags from secondary production
10 03 29*	wastes from treatment of salt slags and black drosses containing hazardous substances
<b>16</b>	<b>WASTES NOT OTHERWISE SPECIFIED IN THE LIST</b>
<b>16 11</b>	<b>Waste linings and refractories</b>
16 11 01*	carbon-based linings and refractories from metallurgical processes containing hazardous substances

**Table S2.4 Permitted waste types and quantities for storage of Hazardous Waste – Activity A3**

Maximum quantity	15,000t salt slag, 5,000t spent pot liner, 3,000t dross per day
Waste code	Description
16 11 03*	other linings and refractories from metallurgical processes containing hazardous substances

**Table S2.5 Permitted waste types and quantities for milling of foundry sand – Activity A4**

Maximum quantity	250 tonnes per day
Waste code	Description
<b>10</b>	<b>WASTES FROM THERMAL PROCESSES</b>
<b>10 09</b>	<b>wastes from casting of ferrous pieces</b>
10 09 06	casting cores and moulds which have not undergone pouring other than those mentioned in 10 09 05
<b>10 10</b>	<b>wastes from casting of non-ferrous pieces</b>
10 10 06	casting cores and moulds which have not undergone pouring, other than those mentioned in 10 10 05
10 10 08	casting cores and moulds which have undergone pouring, other than those mentioned in 10 10 07
<b>10 12</b>	<b>wastes from manufacture of ceramic goods, bricks, tiles and construction products</b>
10 12 06	discarded moulds

**Table S2.6 Permitted waste types and quantities for Repackaging of Hazardous Dross – Activity A5**

Maximum quantity	2,500 tonnes dross per day
Waste code	Description
<b>10</b>	<b>WASTES FROM THERMAL PROCESSES</b>
<b>10 03</b>	<b>wastes from aluminium thermal metallurgy</b>
10 03 29*	wastes from treatment of salt slags and black drosses containing hazardous substances
10 03 09*	Black drosses from secondary production

**Table S2.7 Permitted waste types and quantities for Repackaging of Non-Hazardous dross – Activity A11**

Maximum quantity	2,000 tonnes per day
Waste code	Description
<b>10</b>	<b>WASTES FROM THERMAL PROCESSES</b>
<b>10 03</b>	<b>wastes from aluminium thermal metallurgy</b>
10 03 30	wastes from treatment of salt slags and black drosses other than those mentioned in 10 03 29*

## Schedule 3 – Emissions and monitoring

**Table S3.1a Point source emissions to air – emission limits and monitoring requirements – Until 29<sup>th</sup> June 2020**

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference Period <sup>1</sup>	Monitoring frequency	Monitoring standard or method
A1 on site plan in Schedule 7	Milling LEV Stack	Particulates	12 mg/m <sup>3</sup>	1 hour	Quarterly	BS EN 13284-1
A2 on site plan in Schedule 7	Scrubber stack serving the chemical plant	Ammonia (NH <sub>3</sub> )	9 mg/m <sup>3</sup>	1 hour	Quarterly	BS EN 14791
A3 on site plan in Schedule 7	Boiler Stack	No monitoring required	No limit set	-	-	-
A4 on site plan in Schedule 7	Flare Stack	Hydrogen Sulphide (H <sub>2</sub> S)	No limit set	Spot sample	Annual	ISO 17025 accredited
A5 on site plan in Schedule 7	Scrubber Stack serving chemical plant LEV	Ammonia (NH <sub>3</sub> )	9 mg/m <sup>3</sup>	1 hour	Quarterly	BS EN 14791
A6 on site plan in Schedule 7	Scrubber stack serving Vacuum Belt area	Ammonia (NH <sub>3</sub> )	9 mg/m <sup>3</sup>	1 hour	Quarterly	BS EN 14791
A7 on site plan in Schedule 7	Scrubber stack serving Intermediate BFA storage bay	Ammonia (NH <sub>3</sub> )	9 mg/Nm <sup>3</sup>	1 hour	Quarterly	BS EN 14791
		Phosphine (PH <sub>3</sub> )	0.5 mg/Nm <sup>3</sup>		Annual	BS EN 14791
		Hydrogen Sulphide (H <sub>2</sub> S)	2 mg/Nm <sup>3</sup>		Annual	US EPA Method 11

Note 1: Schedule 6 details reference conditions

**Table S3.1b Point source emissions to air – emission limits and monitoring requirements – From 30<sup>th</sup> June 2020**

<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Reference Period<sup>1</sup></b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
A1 on site plan in Schedule 7	Milling LEV Stack	Particulates	5 mg/Nm <sup>3</sup>	1 hour	Quarterly	BS EN 13284-1
A2 on site plan in Schedule 7	Scrubber stack serving the chemical plant	Ammonia (NH <sub>3</sub> )	9 mg/Nm <sup>3</sup>	1 hour	Quarterly	BS EN 14791
		Phosphine (PH <sub>3</sub> )	0.5 mg/Nm <sup>3</sup>		Annual	BS EN 14791
		Hydrogen Sulphide (H <sub>2</sub> S)	2 mg/Nm <sup>3</sup>		Annual	US EPA Method 11
A3 on site plan in Schedule 7	Boiler Stack	No monitoring required	No Limit set	-	-	-
A4 on site plan in Schedule 7	Flare Stack	Hydrogen Sulphide (H <sub>2</sub> S)	No Limit set	Spot sample	Annual	ISO 17025 accredited
A5 on site plan in Schedule 7	Scrubber Stack serving chemical plant LEV	Ammonia (NH <sub>3</sub> )	9 mg/Nm <sup>3</sup>	1 hour	Quarterly	BS EN 14791
		Phosphine (PH <sub>3</sub> )	0.5 mg/Nm <sup>3</sup>		Annual	BS EN 14791
		Hydrogen Sulphide (H <sub>2</sub> S)	2 mg/Nm <sup>3</sup>		Annual	US EPA Method 11
A6 on site plan in Schedule 7	Scrubber stack serving Vacuum Belt area	Ammonia (NH <sub>3</sub> )	9 mg/Nm <sup>3</sup>	1 hour	Quarterly	BS EN 14791
		Phosphine (PH <sub>3</sub> )	0.5 mg/Nm <sup>3</sup>		Annual	BS EN 14791
		Hydrogen Sulphide (H <sub>2</sub> S)	2 mg/Nm <sup>3</sup>		Annual	US EPA Method 11
A7 on site plan in Schedule 7	Scrubber stack serving Intermediate BFA storage bay	Ammonia (NH <sub>3</sub> )	9 mg/Nm <sup>3</sup>	1 hour	Quarterly	BS EN 14791
		Phosphine (PH <sub>3</sub> )	0.5 mg/Nm <sup>3</sup>		Annual	BS EN 14791
		Hydrogen Sulphide (H <sub>2</sub> S)	2 mg/Nm <sup>3</sup>		Annual	US EPA Method 11

Note 1: Schedule 6 details reference conditions

## Schedule 4 - Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

**Table S4.1 Reporting of monitoring data**

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.3.1 (a)	A1, A2, A5, A6 & A7	Quarterly	14/09/2018
Emissions to air Parameters as required by condition 3.3.1	A4 & A7	Annually	14/09/2018
Emissions to air Parameters as required by condition 3.3.1 (b)	A4, A2, A5, A6 & A7	Quarterly & Annually	30/06/2020

**Table S4.2 Performance parameters**

Parameter	Frequency of assessment	Units
Total waste produced per tonne of material processed	Annually	Tonnes/tonne
Total energy usage per tonne of material processed	Annually	MWh/tonne
Total water usage per tonne of material processed	Annually	m <sup>3</sup> /tonne

**Table S4.3 Reporting forms**

Media/parameter	Reporting format	Date of form
Air	Air1 form (until 29/06/2020)	14/09/2018
	Air2 form (from 30/06/2020)	14/09/2018
	or other form as agreed in writing by Natural Resources Wales	
Water usage	WaterUsage1 form	14/09/2018
	or other form as agreed in writing by Natural Resources Wales	
Energy usage	Energy1 form	14/09/2018
	or other form as agreed in writing by Natural Resources Wales	
Other performance indicators	Performance1 form	14/09/2018
	or other form as agreed in writing by Natural Resources Wales	

# Schedule 5- Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

## Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

<b>(a) Notification requirements for any activity that gives rise to an incident or accident which significantly affects or may significantly affect the environment</b>	
<b>To be notified Immediately</b>	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

<b>(b) Notification requirements for the breach of a permit condition</b>	
<b>To be notified immediately</b>	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

<b>(c) In the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment:</b>	
<b>To be notified immediately</b>	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

## Part B - to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

<b>Name*</b>	
<b>Post</b>	
<b>Signature</b>	
<b>Date</b>	

\* authorised to sign on behalf of the operator

## Schedule 6 Interpretation

*“Accident”* means an accident that may result in pollution.

*“Annex I”* means Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.  
*“Annex II”* means Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

*“Application”* means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

*“Authorised officer”* means any person authorised by Natural Resources Wales under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

*“Background concentration”* means such concentration of that substance as is present in:

- for emissions to surface water, the surface water quality up-gradient of the site; or
- for emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge.

*“BAT”* means *Best Available Techniques*

*“Building”* means a construction that has the objective of providing sheltering cover and minimising emissions of noise, particulate matter, odour and litter.

*“D”* means a disposal operation provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

*“Emissions to land”* includes emissions to groundwater.

*“EP Regulations”* means The Environmental Permitting (England and Wales) Regulations SI 2016 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

*“Emissions of substances not controlled by emission limits”* means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit.

*“Groundwater”* means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

*“Hazardous property”* has the meaning given in Schedule 3 of the Hazardous Waste (England and Wales) Regulations 2005 No.894 and the Hazardous Waste (Wales) Regulations 2005 No. 1806 (W.138).

*“Hazardous waste”* has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 No.894, the Hazardous Waste (Wales) Regulations 2005 No. 1806 (W.138), the List of Wastes (England) Regulations 2005 No.895 and the List of Wastes (Wales) Regulations 2005 No. 1820 (W.148).

*“MCERTS”* means the Environment Agency’s Monitoring Certification Scheme.

*“Quarter”* means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

*“R”* means a recovery operation provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

*“Recovery”* means any of the operations provided for in Annex IIB to Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on Waste.

*“Waste code”* means the six digit code referable to a type of waste in accordance with the List of Wastes (England) Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

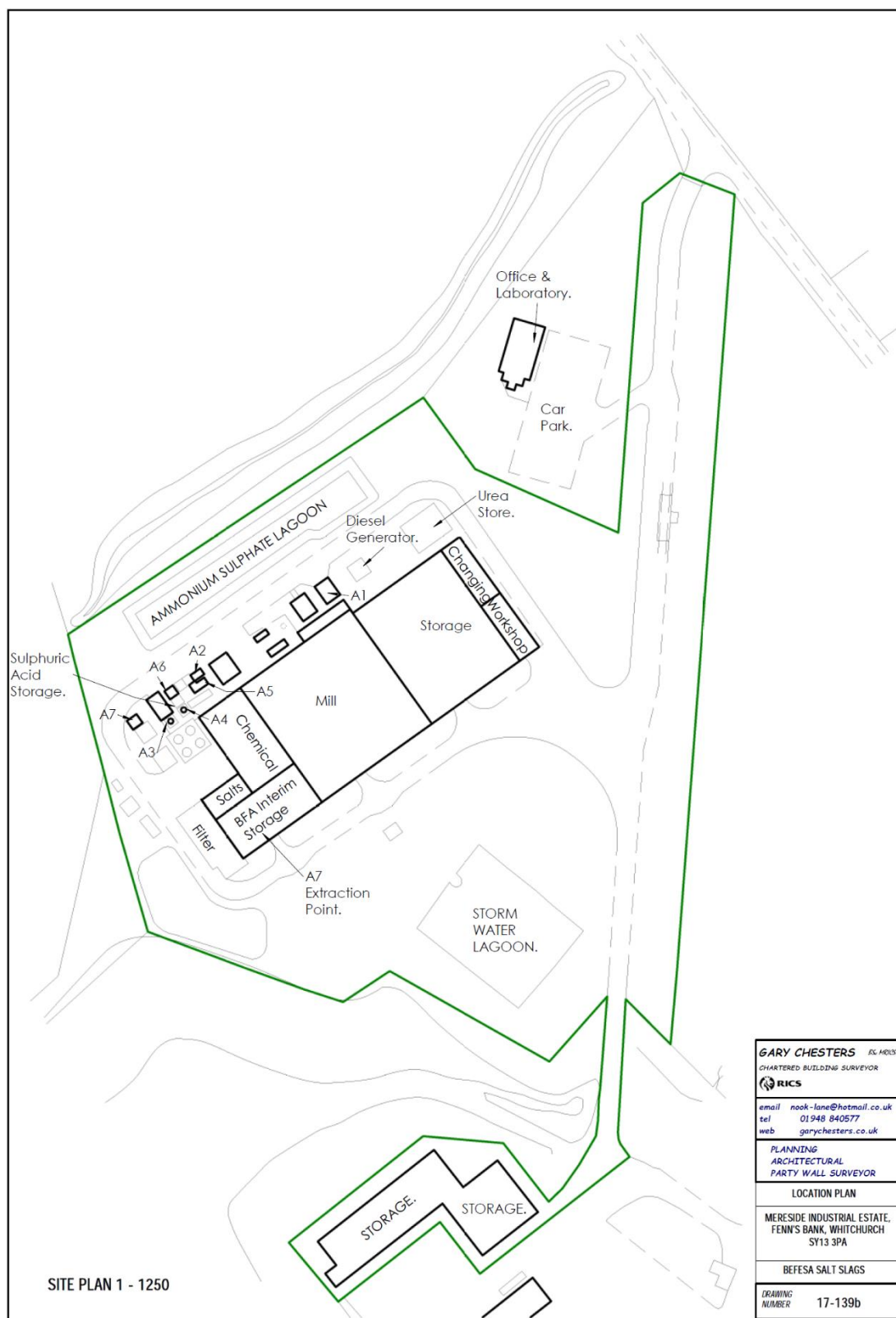
*“Year”* means calendar year ending 31 December.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content

## Schedule 7 Site plan



**NB.** 'A7 extraction point' represents the internal gas transfer point and is not an external emission point source.

END OF PERMIT