

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Less Common Metals Limited

Unit 2 Hooton Park
North Road
Ellesmere Port
Merseyside
CH65 1BL

Variation application number

EPR/RP3233CZ/V004

Permit number

EPR/RP3233CZ

Unit 2 Hooton Park

Permit number EPR/RP3233CZ

Introductory note

This introductory note does not form a part of the notice.

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Changes introduced by this variation notice/statutory review

This variation has been issued to update some of the conditions following a statutory review of the permits in the industry sector for non-ferrous metals. The opportunity has also been taken to consolidate the original permit and subsequent variations.

The Industrial Emissions Directive (IED) came into force on 7th January 2014 with the requirement to implement all relevant Best Available Techniques (BAT) Conclusions as described in the Commission Implementing Decision. The BAT Conclusions (BATc) for the non-ferrous metals industries were published on 30th June 2016 in the Official Journal of the European Union (L174) following a European Union wide review of BAT, implementing decision (EU) 2016/1032 of 13th June 2016. The BATc for this installation which apply from 30th June 2020 are General BAT Conclusions 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14, 15, 16, 17, 18 and 19; Ferro Alloy Production BAT Conclusions 153, 154, 155, 161 and 162 and Nickel and/or Cobalt Production BAT Conclusions 165, 166 and 176. The operator is currently compliant with these BATc.

The schedules specify the changes made to the permit. Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. All the conditions of the permit have been varied and are subject to the right of appeal.

Brief description of the process

The main features of the permit are as follows:

The installation undertakes the production of rare earth metals and their alloys – neodymium, samarium cobalt and others.

The activities are prescribed under:

- Section 2.2 Part A(1)(a) of Schedule 1 of the EPR 2010 (as amended) Regulations: “*producing non-ferrous metals from ore, concentrates or secondary raw materials by metallurgical, chemical or electrolytic activities*”, and
- Section 2.2 Part B(a) “*Melting, including making alloys, of non-ferrous metals in plant with a melting capacity of ... 20 tonnes or less per day for all other metals.*”

The production of neodymium, a non-ferrous metal, via an electrolytic process is a Section 2.2 Part A(1)(a) process. Neodymium is produced by adding neodymium oxide (Nd₂O₃) to a high temperature molten salt bath of neodymium fluoride (NdF₃) and lithium fluoride (LiF), and electrolysis the resulting mix. In the electrolysis, the oxide is reduced to liquid metal which is immiscible with the molten salt and which separates due to its higher density. The liquid metal is tapped off at the base of the cell and cast into moulds. A cell batch comprises about 100-200kg molten oxide plus salt. Currently the operator is running two cells on a trial basis, with the aim of eventually running 40 cells. The activity has been assessed on full capacity, estimated as 1,750 tonnes annual throughput.

The co-reduction of samarium and cobalt oxides by calciothermic reduction is also a Section 2.2 Part A(1)(a) process. Samarium cobalt is produced by a reduction/melt method. The materials (samarium oxide (Sm₂O₃), cobalt II oxide (CoO) and powdered calcium (Ca)) are weighed out. The concentrates are reduced in a sealed container at high temperature. The process includes a leaching stage, followed by drying and blending stages. Process water arising from the leaching process is discharged to the sewer with the

permission of the local sewerage undertaker. After drying and blending the final product is packed and vacuum sealed ready for dispatch.

There are also several standalone Section 2.2 Part B(a) processes on the site which involve the melting, including making alloys, of non-ferrous metals. The alloys containing rare earth metals are produced on site by mixing appropriate proportions of pure metals such as neodymium, samarium, cobalt, iron and boron at high temperatures in a vacuum induction furnaces under a blanket of argon gas. The activities include the neodymium iron boron plant furnaces producing both strip cast and cast products; and the samarium cobalt plant furnaces producing cast products.

The total design melting capacity for all the vacuum induction furnaces is approximately 6 tonnes per day.

Emissions are to air, water and sewer. Air emissions are very low levels of dust and hydrogen fluoride which are abated by particulate filter. Site surface water drainage is discharged to an off-site lagoon before overflowing to the River Mersey. As discussed above, process water arising from the samarium cobalt co-reduction process is discharged to the trade effluent sewer of the local sewerage undertaker.

There are two statutory sensitive ecological receptors within 10km of the site: the Dee Estuary (SAC, SPA and, Ramsar) and the Mersey Estuary (SPA and Ramsar) and the Mersey Estuary SSSI is within 2 km. There are 5 non-statutory sites within 2 km of the site, the nearest being Booston Wood Local Wildlife Site.

The activities are conducted within a framework of a quality system certified to the requirements of ISO 9001. The operator also has an accredited Environmental Management System (ISO 14001).

The Installation is operated by Less Common Metals Limited and is located in Merseyside, England.

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

Status log of the permit		
Description	Date	Comments
Application received EPR/RP3233CZ/A001	Duly made 23/01/12	Low Impact Installation with Standard Rules
Permit determined EPR/RP3233CZ	25/01/12	Issued
Application for variation EPR/RP3233CZ/V002	Duly made 01/07/13	Application to vary the permit to bespoke conditions.
Response to Schedule 5 Notice No. 1 dated 01/07/13	25/07/13	General clarifications of aspects of application.
Variation determined EPR/RP3233CZ/V002	12/09/13	Varied permit issued.
Application EPR/RP3233CZ/V003 (variation and consolidation)	Duly made 30/03/16	Application to vary permit to amend scheduled activity reference and emission points.
Variation determined EPR/RP3233CZ (PAS Billing Ref: TP3431RX)	26/05/16	Varied and consolidated permit issued.
Regulation 60 Notice dated 16/12/16 (Notice requiring information for statutory review of permit)	Response Received 28/03/17	Technical standards detailed in response to the information notice. Information to demonstrate that relevant BAT Conclusions are met for the non-ferrous metals industries as detailed in document reference L174.

Status log of the permit		
Description	Date	Comments
Environment Agency initiated variation EPR/RP3233CZ/V004 (variation and consolidation)	14/03/18	Statutory review of permit – Non-ferrous metals BAT Conclusions published 30/06/16
Variation determined EPR/RP3233CZ/V004 (PAS / Billing Ref: QP3834JT)		Varied and consolidated permit issued

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies and consolidates

Permit number

EPR/RP3233CZ

Issued to

Less Common Metals Limited (“the operator”)

whose registered office is

Unit 2 Hooton Park

North Road

Ellesmere Port

Merseyside

CH65 1BL

company registration number 02690088

to operate an installation at

Unit 2 Hooton Park

North Road

Ellesmere Port

Merseyside

CH65 1BL

to the extent set out in the schedules.

The notice shall take effect from 14/03/2018

Name	Date
Tom Swift	14/03/18

Authorised on behalf of the Environment Agency

Schedule 1

All conditions have been varied by the consolidated permit as a result of an Environment Agency initiated variation.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/RP3233CZ

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/RP3233CZ/V004 authorising,

Less Common Metals Limited (“the operator”),

whose registered office is

Unit 2 Hooton Park

North Road

Ellesmere Port

Merseyside

CH65 1BL

company registration number 02690088

to operate an installation at

Unit 2 Hooton Park

North Road

Ellesmere Port

Merseyside

CH65 1BL

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

Name	Date
Tom Swift	14/03/2018

Authorised on behalf of the Environment Agency

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”).

2.2 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 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 the Environment Agency.

2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency 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 the Environment Agency.

2.3.3 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.

2.3.4 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.

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 the Environment Agency.

2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency 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 tables S3.1, S3.2 and S3.3.

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 the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency 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 the Environment Agency.
- 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 Odour

- 3.3.1 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 the Environment Agency, 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.
- 3.3.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency 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 the Environment Agency.

3.4 Noise and vibration

- 3.4.1 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 the Environment Agency, 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.
- 3.4.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency 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 the Environment Agency.

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit; point source emissions specified in tables S3.1, S3.2 and S3.3;
- 3.5.2 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.
- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.
- 3.5.4 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 tables S3.1, S3.2 and S3.3 unless otherwise agreed in writing by the Environment Agency.

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 the Environment Agency, 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 the Environment Agency.

4.2 Reporting

- 4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.
- 4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) 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 annual production /treatment data set out in schedule 4 table S4.2; and
 - (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 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 the Environment Agency, 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 S4.4 ; 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 the Environment Agency, 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.

4.3 Notifications

- 4.3.1 In the event:
- (a) 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 the Environment Agency,
 - (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) of a breach of any permit condition the operator must immediately—
 - (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
 - (c) 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 the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 The Environment Agency 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.

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) the Environment Agency 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 The Environment Agency shall be given at least 14 days' notice before implementation of any part of the site closure plan.

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 listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
Section 2.2 A(1)(a)	Producing non-ferrous metals from ore, concentrates or secondary raw materials by metallurgical, chemical or electrolytic activities (production of neodymium via electrolysis; production of samarium cobalt alloys from metal oxide concentrates in a reduction-diffusion process)	From receipt of raw materials to storage of products
Section 2.2 B(a)	Melting, including making alloys of, non-ferrous metals (other than tin or any alloy which in molten form contains 50 per cent or more by weight of tin), including recovered products (such as refining or foundry casting) in plant with a melting capacity of 4 tonnes or less per day for lead or cadmium or 20 tonnes or less per day for all other metals (rare earth metals)	From receipt of raw materials to storage of products
Directly Associated Activity		
Effluent discharge to foul sewer	Discharge of process water from the installation	From production of effluent to discharge to external foul sewer
Raw materials storage and handling	Receipt, handling and storage of all process substances	Receipt of raw materials until used in the process
Storage and handling of wastes	Handling, storing and removal of all wastes from site	From waste production by the specified activities to waste leaving the site

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application EPR/RP3233CZ/A001	Sections 1 (Overview), Section 11 (Management Systems)	01/07/13
Response to Schedule 5 Notice dated 03/07/13	The operating techniques described in items: 1, 2, 4, 5, 6, 7 and 8 of the response	25/07/13
Application for variation EPR/RP3233CZ/V003	“Scheduled activity” section of the non-technical summary, showing the maximum capacities of the furnaces	06/01/16

Table S1.2 Operating techniques		
Description	Parts	Date Received
Response to Regulation 60 Notice – request for further information dated 06/12/16	<p>Technical standards detailed in response to BAT Conclusions 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14, 15, 16, 17, 18, 19, 153, 154, 155, 161, 162, 165, 166 and 176 of the notice provided under Regulation 60(1) of Environmental Permitting Regulations.</p> <p>Best available techniques as described in BAT Conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for non-ferrous metals industries.</p>	Received 04/04/17

Table S1.3 Improvement programme requirements		
Reference	Improvement Condition	Completion date
IC1	<p>The operator shall submit a surface water pollution risk assessment to the Environment Agency for approval, which shall assess the impact of discharges of hazardous pollutants to surface water and/or sewer from the installation. The risk assessment shall include, but not be limited to the following:</p> <ul style="list-style-type: none"> a) representative emissions data for the following hazardous pollutants: silver, arsenic, cadmium, cobalt, chromium (total), chromium (VI), copper, mercury, nickel, lead, zinc; and any other relevant substances discharged from the installation. Any emissions monitoring required should be carried out using the methods and standards described in Environment Agency <u>M18</u> guidance; and b) a risk assessment in accordance with the screening procedures in Environment Agency guidance “<u>Surface water pollution risk assessment for your environmental permit</u>”, using the representative emissions data obtained in (a) above. 	Within 12 months of effective date of notice V004.

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
-	-

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1 [Point A1 on site plan in Schedule 7]	Co-reduced samarium cobalt plant furnaces	Particulates	5 mg/m ³	Hourly average	Annual	BS EN 13284-1 and MID
A2 [Point A2 on site plan in schedule 7]	Cast samarium cobalt plant furnaces	Particulates	5 mg/m ³	Hourly average	Annual	BS EN 13284-1 and MID
A3 [Point A3 on site plan in schedule 7]	Strip cast neodymium iron boron plant furnace	Particulates	5 mg/m ³	Hourly average	Annual	BS EN 13284-1 and MID
A4 [point A4 on site plan in schedule 7]	Cast neodymium iron boron plant furnace	Particulates	5 mg/m ³	Hourly average	Annual	BS EN 13284-1 and MID
A5 to A9 [point "A5 to A9" on site plan in schedule 7]	Electrolysis plant	Particulates	5 mg/m ³	Hourly average	Annual	BS EN 13284-1 and MID
		Hydrogen fluoride	0.5 mg/m ³	Hourly average	Annual	BS ISO 15713

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
W1 [as described in Schedule 5 notice response dated 25/07/13]	Site surface water arising's	-	-	-	-	-

**Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site—
emission limits and monitoring requirements**

Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
S1 [As described in Schedule 5 notice response dated 25/07/13]	Samarium cobalt process effluent	-	-	-	-	-

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 3.5.1.	A1, A2, A3, A4, A5 to A9	Every 12 months	1 January

Table S4.2: Annual production/treatment	
Parameter	Units
Product	tonnes

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Water usage	Annually	tonnes
Energy usage	Annually	MWh

Table S4.4 Reporting forms		
Media/parameter	Reporting format	Date of form
Air	Form Air 1 or other form as agreed in writing by the Environment Agency	14/03/18
Water and Land	Form Usage 1 or other form as agreed in writing by the Environment Agency	14/03/18
Other performance indicators	Form Performance 1 or other form as agreed in writing by the Environment Agency	14/03/18

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	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
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) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
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

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
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.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

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

“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 the Environment Agency 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.

“average over the sampling period” means the average value of three consecutive measurements of at least 30 minutes each, unless otherwise stated, as defined in the *General Considerations* section of the Non-Ferrous Metals BAT Conclusions. For batch processes, the average of a representative number of measurements taken over the total batch time or the result of a measurement carried out over the total batch time can be used.

“BAT-AELs” means BAT-associated emission levels, i.e. the emission levels associated with the best available techniques for emissions to air and/or water, as set out in the Non-Ferrous Metals BAT Conclusions.

“daily average” means the average over a period of 24 hours of valid half-hourly or hourly averages obtained by continuous measurements, as defined in the *General Considerations* section of the Non-Ferrous Metals BAT Conclusions. A half-hourly or hourly average shall be considered valid if measurements are available for a minimum of (a) 20 minutes during the half hour, or (b) 40 minutes during the hour. The number of half-hourly or hourly averages so validated shall not exceed 5 per day.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 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 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.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

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

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.

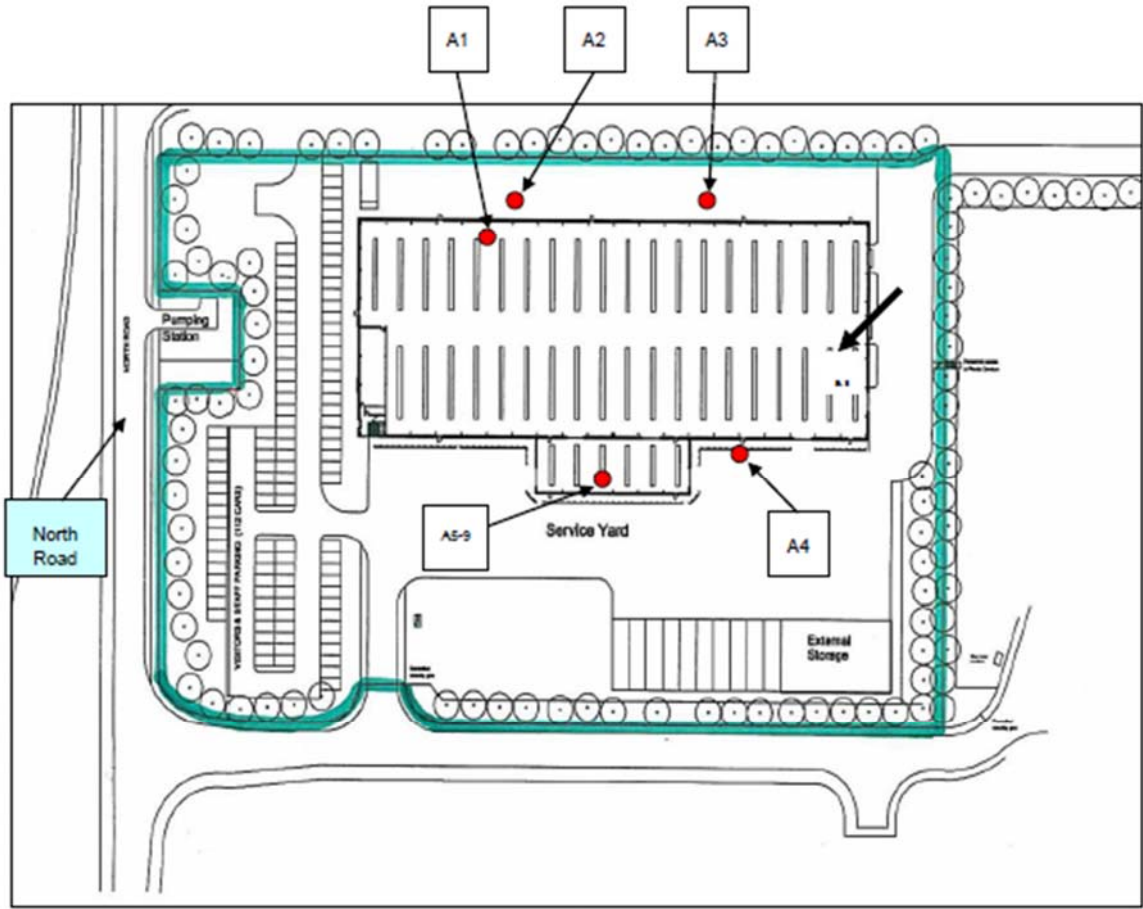
Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- in relation to emissions from combustion processes and not subject to BAT-AELs for air emissions, the concentration in dry air at a temperature of 273.15K, at a pressure of 101.3 kPa, and with an oxygen content of 3% dry for liquid and gaseous fuels and 6% dry for solid fuels; and/or
- in relation to emissions from non-combustion sources and not subject to BAT-AELs for air emissions, the concentration at a temperature of 273.15K and at a pressure of 101.3 kPa, with no correction for water vapour content; and/or
- in relation to emissions from non-combustion sources subject to BAT-AELs for air emissions, the concentration in dry air at a temperature of 273.15K and at a pressure of 101.3 kPa; and/or

- in relation to emissions from combustion processes subject to BAT-AELs for air emissions, the concentration in dry air at a temperature of 273.15K and at a pressure of 101.3 kPa, and with an oxygen content of 3% dry for liquid and gaseous fuels and 6% dry for solid fuels.

“year” means calendar year ending 31 December.

Schedule 7 – Site plan



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END OF PERMIT