

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Timet UK Limited

Timet UK Limited
PO Box 704
Witton
Birmingham
B6 7UR

Variation application number

EPR/BM5020IC/V004

Permit number

EPR/BM5020IC

Timet UK Limited

Permit number EPR/BM5020IC

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 1-11 and 13-19. The operator is already compliant with the BATc with the exception of 1, 3, 4, 5, 6, 10, 11 and 16. We have set improvement conditions in the varied permit to track progress against future compliance.

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

Timet UK Limited (the Installation) is operated by Timet UK and is located in Witton, Birmingham, England.

The main purpose of the activities at the installation is the production of titanium ingot and forged items from titanium sponge and alloying metals, on a self-contained site.

The manufacture involves the following processes. Titanium sponge and alloying elements are pre-treated by blending and compaction forming electrodes for the stage 1 vacuum electric arc furnaces. These electrodes are melted in the vacuum furnaces to produce ingots which are machined and then pass through to the water cooled furnaces (Stage 2 and 3). Samples are taken at this stage for analysis and the secondary ingots are passed through a forging furnace in preparation for the final forging, machining and surface treatment phases to produce the final product.

The site has a dedicated sodium-potassium alloy (NaK) disposal plant with caustic scrubber to treat and dispose of the NaK used to cool the seven Stage 1 vacuum furnaces

Treated process effluent and site surface water is discharged to the River Tame via an effluent treatment plant operated under contract by a third party.

The operator has confirmed that there are no releases to groundwater or land.

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 BM5020IC	Received 18/12/01	
Response to request for information	Request dated 10/04/02	Response dated 19/06/02
Response to second request for information	Request dated 31/07/02	Response dated 30/01/03
Response to third request for information	Request dated 10/02/03	Response dated 05/03/03
Request by Environment Agency to extend determination from 19/04/02 to 19/06/02	Request dated 10/04/02	Request accepted 15/04/02
Request by Environment Agency to extend determination from 23/02/03 to 23/04/03	Request dated 07/02/03	Request accepted 07/02/03
Permit BM5020IC	Determined 23/04/03	
Variation WP3338SJ	Determined 31/03/05	Due to legislation change
Variation MP3432SS	Determined 05/04/05	Correction to previous variation to remove emission points not included in installation
Regulation 60 Notice dated 16/12/16 (Notice requiring information for statutory review of permit)	Response received 30/03/17	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.
Regulation 61 Notice dated 02/05/18 (Notice requiring information for statutory review of permit)	Response received between 06/06/18 and 08/06/18	Further information / clarification with regard to BAT conclusions 1 - 11, 13 - 19.
Further information response to Regulation 61 Notice dated 02/05/18	Response received 11/06/18	Process flow diagrams provided as further clarification of processes carried out on site
Further information requests on 11/06/18	Response received 11/06/18	Confirmation that the Stage 1 NaK cooled furnaces will not be used until infrastructure improvements have been completed and the Environment Agency notified.
Further information requests on 12/06/18	Responses received 12/06/18	Further information / clarification with regard to waste status of raw materials
Further information requests on 13/06/18	Response received 13/06/18	Clarification of HF and nitric acid usage within process cycle
Further information provided as a result of operator review of draft permit	Received 12/07/18	Copy of original site condition report
Environment Agency initiated variation EPR/BM5020IC/V004	13/07/2018	Statutory review of permit – Non-ferrous metals BAT Conclusions published 30/06/16

Status log of the permit		
Description	Date	Comments
(variation and consolidation) Variation determined EPR/BM5020IC/V004 (PAS / Billing Ref: AP3537JW)		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/BM5020IC

Issued to

Timet UK Limited (“the operator”)

whose registered office is

P.O. Box 704

Witton

Birmingham

B6 7UR

company registration number 00530589

to operate an installation at

Timet UK Limited

P.O. Box 704

Witton

Birmingham

B6 7UR

to the extent set out in the schedules.

The notice shall take effect from 13/07/2018.

Name	Date
Tom Swift	13/07/2018

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/BM5020IC

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BM5020IC/V004 authorising,

Timet UK Limited (“the operator”)

whose registered office is

P.O. Box 704

Witton

Birmingham

B6 7UR

company registration number 00530589

to operate an installation at

Timet UK Limited

P.O. Box 704

Witton

Birmingham

B6 7UR

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

Name	Date
Tom Swift	13/07/2018

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”).
- 2.1.2 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 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 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.4 Waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 table S2.2; and
 - (b) it conforms to the description in the documentation supplied by the producer and holder.
- 2.3.5 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.
- 2.3.6 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 S3.1a, S3.1b and S3.2.
- 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:

- (a) point source emissions specified in tables S3.1a, S3.1b and S3.2.

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 S3.1a, S3.1b and S3.2 unless otherwise agreed in writing by the Environment Agency.

3.6 Fire prevention

3.6.1 The operator shall take all appropriate measures to prevent fires on site and minimise the risk of pollution from them including, but not limited to, those specified in any approved fire prevention plan.

3.6.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to a risk of fire, submit to the Environment Agency for approval within the period specified, a fire prevention plan which prevents fires and minimises the risk of pollution from fires;
- (b) implement the fire prevention plan, from the date of approval, 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.

4.2.5 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency 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, if during that quarter the total amount accepted exceeds 100 tonnes of non-hazardous waste or 10 tonnes of hazardous waste.

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.
- 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) 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 and WFD Annex I and II operations	Limits of specified activity and waste types
Section 2.2 A(1)(b):	<p>Melting, including making alloys of, non-ferrous metals, including recovered products and the operation of non-ferrous metal foundries where-</p> <p>(i) the plant has a melting capacity of more than 4 tonnes per day for lead or cadmium or 20 tonnes per day for all other metals, and</p> <p>(ii) any furnace (other than a vacuum furnace), bath or other holding vessel used in the plant for the melting has a design holding capacity of 5 or more tonnes</p>	<p>From receipt of material in the furnace charging bins to intermediate storage prior to the finishing activities</p> <p>Waste types as specified in Table S2.2</p>
Section 2.3 B	Surface treatment of titanium ingots	Receipt of material from finishing activities to the production of final product
Directly Associated Activity		
Raw materials storage and handling	Receipt, handling and storage of titanium sponge and alloying materials and all process substances. Blending, compacting and electrode production	Receipt of raw materials until transfer of electrodes to furnaces
Off-gas collection, abatement and discharge systems.	<p>Localised extraction hoods, ducting, bag filter and stacks.</p> <p>Caustic scrubber from NaK treatment plant</p>	<p>Collections of air emissions to exit point via stacks.</p> <p>Collection and discharge to chemical sewer</p>
Finishing activities	Forging, machining and heating to produce titanium ingots	Receipt of titanium from furnace to transfer to surface treatment

Table S1.1 activities		
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
Water discharges to controlled waters	Discharge of process water and site drainage from the installation	From effluent treatment plant and surface water drains to the River Tame
Storage and handling of solid and liquid wastes	Handling, storing and removal of all wastes from site	From separation of wastes to despatch from installation Except wastes from finished products packaging and storage.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	The response to question 2.3 given in section B2.3 and Appendices 3-8 and 12 of the application	18/12/01
Response to second Schedule 4 Part 1 Notice	Response to question 18-29 inclusive and appendices 3-7 of the response	20/06/02
Response to second Schedule 4 Part 1 Notice	Response to question 12 and appendix 1 of the response	30/01/03
Response to Regulation 60 Notice – request for further information dated 06/12/16	Technical standards detailed in response to BAT Conclusions 1- 11 and 13-19 of the notice provided under Regulation 60(1) of Environmental Permitting Regulations. 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	Received 08/06/18
Receipt of additional information to the Regulation 61 Notice, requested by letter dated 05/05/18	Technical standards detailed in response to items 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18 and 19 of the request.	Received 11/06/18
Further information response to Regulation 61 Notice dated 02/05/18	Process flow diagrams provided as further clarification of processes carried out on site	Received 11/06/18
Further information requests on 11/06/18	Confirmation that Stage 1 NaK cooled furnaces will not be used until infrastructure improvements have been completed and the Environment Agency notified.	Received 11/06/18
Further information requests on 12/06/18	Clarification with regard to waste status of raw materials	Received 12/06/18
Further information requests on 13/06/18	Clarification of HF and nitric acid usage within process cycle	Received 13/06/18
Copy of original site condition report as a result of operator review of draft permit	Provision of a copy of the original site condition report to remove the requirement for further site investigation	Received 12/07/18

Table S1.3 Improvement programme requirements		
Reference	Improvement Condition	Completion date
IC1	<p>The operator shall submit, for approval by Environment Agency, a report setting out progress to achieving the environmental protection intended by the setting of BAT conclusion AELs where BAT is currently not achieved, but will be achieved before 30th June 2020. The report shall include, but not be limited to, the following:</p> <ol style="list-style-type: none"> 1) Current performance against the BATc AEL. 2) Methodology for reaching the AELs. 3) Associated targets / timelines for reaching compliance by 30th June 2020. 4) Any alterations to the initial plan <p>The report shall address the following</p> <p>BAT 11 (...reduce mercury emissions to air from a pyrometallurgical process...).</p> <p>Refer to BAT Conclusions for a full description of the BAT requirements</p>	30/06/20
IC2	<p>The operator shall submit, for approval by Environment Agency, a report setting out progress to achieving the 'Narrative' BAT where BAT is currently not achieved, but will be achieved before 30th June 2020. The report shall include, but not be limited to, the following:</p> <ol style="list-style-type: none"> 1) Methodology for achieving BAT. 2) Associated targets / timelines for reaching compliance by 30th June 2020. 3) Any alterations to the initial plan <p>The report shall address the following</p> <p>BAT 1 ("... improve the overall environmental performance, BAT is to implement and adhere to an environmental management system (EMS) that incorporates all of the listed features")</p> <p>BAT 3 (...ensure stable process operation by using a process control system...)</p> <p>BAT 4 (...reduce channelled dust and metal emissions to air...apply a maintenance management system which especially addresses the performance of dust abatement systems as part of the EMS)</p> <p>BAT 5 ("...prevent or...reduce diffuse emissions to air and water, BAT is to collect diffuse emissions as much as possible nearest to the source and treat them.)</p> <p>BAT 6 ("...to set up an implement an action plan on diffuse dust emissions, as part of the environmental management system...")</p> <p>BAT 10 ("...to monitor the stack emissions with at least the frequency given... in accordance with EN standards in secondary lead production...")</p> <p>BAT 16 ("... to use ISO 5667 for water sampling and to monitor the emissions to water at the point where the emission leaves the installation at least once per month ... and in accordance with EN ...")</p> <p>Refer to BAT Conclusions for a full description of the requirements</p>	<p>30/06/20</p> <p>Progress reports by</p> <p>31/12/18</p> <p>30/06/19</p> <p>31/12/19</p> <p>01/04/20</p>

Table S1.3 Improvement programme requirements		
Reference	Improvement Condition	Completion date
IC3	<p>The operator shall undertake a review of periodic monitoring for emissions to air of mercury and its compounds from emission points A7, A8 and A9.</p> <p>The review will be made with reference to BAT 10 of the BAT Conclusions for the Non-Ferrous Metals Industries (Commission Implementing Decision EU2016/1032) and shall justify, with appropriate evidence, the frequency of monitoring to be employed at the installation from 30 June 2020.</p> <p>The evidence required under this condition shall include analysis and interpretation of monitoring results for each substance, and performance against the relevant BAT-AEL. Consideration should be given to inter alia the nature of the raw materials, fluxing agents, refining chemicals used; operational stability; and process monitoring associated with operation of abatement plant. The quantity of monitoring data considered must be justified and be sufficient so as to demonstrate that the results are statistically representative of emissions during normal operations, covering the concentration range and mass emission rate of substances emitted at all stages of the process.</p> <p>A report on the above review shall be submitted to the Environment Agency to facilitate agreement in writing of the appropriate monitoring provision at the installation.</p>	<p>Within 12 months of effective date of notice V004</p>
IC4	<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> <p>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</p> <p>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.</p>	<p>Within 12 months of effective date of notice V004</p>

Schedule 2 – Waste types, raw materials and fuels

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

Table S2.2 Permitted waste types and quantity for melting, including making alloys, of non-ferrous metals.	
Waste code	Description
12	Wastes from shaping and physical and mechanical surface treatment of metals and plastics
12 01	wastes from shaping and physical and mechanical surface treatment of metals and plastics
12 01 03	non-ferrous metal filings and turnings
12 01 04	non-ferrous metal dust and particles

Schedule 3 – Emissions and monitoring

Table S3.1a Point source emissions to air – emission limits and monitoring requirements						
Effective until 29 June 2020						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency⁽¹⁾	Monitoring standard or method
A1 [On plan in Reg 61 response June 2018 dated 08/06/18]	Surface treatment plant stack	Oxides of Nitrogen (NO and NO ² expressed as NO ²)	10 mg/m ³	Extractive sample	Twice a year	BS EN 14792
		Hydrogen Fluoride	5 mg/m ³	Extractive sample	Twice a year	ISO 15713 and MID
A2 [On plan in Reg 61 response June 2018 dated 08/06/18]	Blue etch plant stack	Oxides of Nitrogen (NO and NO ² expressed as NO ²)	10 mg/m ³	Extractive sample	Twice a year	BS EN 14792
		Hydrogen Fluoride	5 mg/m ³	Extractive sample	Twice a year	ISO 15713 and MID
A3 [On plan in Reg 61 response June 2018 dated 08/06/18]	Laboratory stack	Oxides of Nitrogen (NO and NO ² expressed as NO ²)	10 mg/m ³	Extractive sample	Twice a year	BS EN 14792
		Hydrogen Fluoride	5 mg/m ³	Extractive sample	Twice a year	ISO 15713 and MID
A4 [On plan in Reg 61 response June 2018 dated 08/06/18]	Slice sample pickling stack	Oxides of Nitrogen (NO and NO ² expressed as NO ²)	10 mg/m ³	Extractive sample	Twice a year	BS EN 14792
		Hydrogen Fluoride	5 mg/m ³	Extractive sample	Twice a year	ISO 15713 and MID
A5 [On plan in Reg 61 response June 2018 dated 08/06/18]	NaK Scrubber vent	No parameters	No limits set			
A6 [On plan in Reg 61 response]	Flame cutting stack	Particulates	No limit	Extractive sample	Twice a year	BS EN 13284-1 and MID

Table S3.1a Point source emissions to air – emission limits and monitoring requirements						
Effective until 29 June 2020						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency¹⁾	Monitoring standard or method
June 2018 dated 08/06/18]		Vanadium pentoxide (as V)	1mg/m ³	Extractive sample	Twice a year	EN 14385 and MID
A7 [On plan in Reg 61 response June 2018 dated 08/06/18]	Forge furnace 11 vent	Particulates	No limit	Extractive sample	Twice a year	BS EN 13284-1 and MID
		Oxides of Nitrogen (NO and NO ² expressed as NO ²)	50 mg/m ³	Extractive sample	Twice a year	BS EN 14792
A8 [On plan in Reg 61 response June 2018 dated 08/06/18]	Forge furnace 13 vent	Particulates	No limit	Extractive sample	Twice a year	BS EN 13284-1 and MID
		Oxides of Nitrogen (NO and NO ² expressed as NO ²)	50 mg/m ³	Extractive sample	Twice a year	BS EN 14792
A9 [On plan in Reg 61 response June 2018 dated 08/06/18]	Forge furnace 12 vent	Particulates	No limit	Extractive sample	Twice a year	BS EN 13284-1 and MID
		Oxides of Nitrogen (NO and NO ² expressed as NO ²)	50 mg/m ³	Extractive sample	Twice a year	BS EN 14792
A10, A11 [On plan in Reg 61 response June 2018 dated 08/06/18]	No 2 and No 3 Plasma chamber	No parameters	No limits set			
A12-A19 and A21 [On plan in Reg 61 response June 2018 dated 08/06/18]	Vacuum pump vents for vacuum furnaces	No parameters	No limits set			

1. Minimum interval between extractive monitoring shall be 4 months

**Table S3.1b Point source emissions to air – emission limits and monitoring requirements.
Effective from 30 June 2020**

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency^[1]	Monitoring standard or method
A1 [On plan in Reg 61 response June 2018 dated 08/06/18]	Surface treatment plant stack	Hydrogen Fluoride	5 mg/m ³	Extractive sample	Twice a year	ISO 15713 and MID
A2 [On plan in Reg 61 response June 2018 dated 08/06/18]	Blue etch plant stack	Hydrogen Fluoride	5 mg/m ³	Extractive sample	Twice a year	ISO 15713 and MID
A3 [On plan in Reg 61 response June 2018 dated 08/06/18]	Laboratory stack	Hydrogen Fluoride	5 mg/m ³	Extractive sample	Twice a year	ISO 15713 and MID
A4 [On plan in Reg 61 response June 2018 dated 08/06/18]	Slice sample pickling stack	Hydrogen Fluoride	5 mg/m ³	Extractive sample	Twice a year	ISO 15713 and MID
A5 [On plan in Reg 61 response June 2018 dated 08/06/18]	NaK Scrubber vent	No parameters	No limits set			
A6 [On plan in Reg 61 response June 2018 dated 08/06/18]	Flame cutting stack	Particulates	No limit	Extractive sample	Twice a year	BS EN 13284-1 and MID
		Vanadium pentoxide (as V)	1mg/m ³	Extractive sample	Twice a year	EN 14385 and MID
A7 [On plan in Reg 61 response June 2018 dated 08/06/18]	Forge furnace 11 vent	Particulates	5mg/m ³	Extractive sample	Once a year	BS EN 13284-1 and MID
		Mercury and its compounds as Hg	0.05 mg/m ³	Extractive sample	Continuous or once a year ^[2]	BS EN 13284-1 and MID or BS EN 13211 ^[2]
A8 [On plan in Reg 61 response June 2018 dated 08/06/18]	Forge furnace 13 vent	Particulates	5mg/m ³	Extractive sample	Once a year	BS EN 13284-1 and MID
		Mercury and its compounds as Hg	0.05 mg/m ³	Extractive sample	Continuous or once a year ^[2]	BS EN 13284-1 and MID or BS EN 13211 ^[2]

**Table S3.1b Point source emissions to air – emission limits and monitoring requirements.
Effective from 30 June 2020**

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency^[1]	Monitoring standard or method
A9 [On plan in Reg 61 response June 2018 dated 08/06/18]	Forge furnace 12 vent	Particulates	5mg/m ³	Extractive sample	Once a year	BS EN 13284-1 and MID
		Mercury and its compounds as Hg	0.05 mg/m ³	Extractive sample	Continuous or once a year ^[2]	BS EN 13284-1 and MID or BS EN 13211 ^[2]
A10, A11 [On plan in Reg 61 response June 2018 dated 08/06/18]	No 2 and No 3 Plasma chamber	No parameters	No limits set			
A12-A19 and A21 [On plan in Reg 61 response June 2018 dated 08/06/18]	Vacuum pump vents for vacuum furnaces	No parameters	No limits set			
<p>1. Minimum interval between extractive monitoring shall be 4 months</p> <p>2. BAT is continuous measurement or, where continuous measurement is not applicable, more frequent periodic monitoring. Monitoring frequency to be determined upon completion of IC3 in table S1.3</p>						

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 on site plan in schedule 7 emission to River Tame	Effluent Treatment plant	Maximum discharge volume	3600m ³ /day	Daily	Continuous	In accordance with Environment Agency M18 Guidance ¹
		Maximum flow rate	41.7l/s	Instantaneous (Spot sample)	Monthly	
		BOD	15 mg/l			
		Total suspended solids	30 mg/l			
		pH	7.5-9.5			
		Visible oil and grease	None visible			
		Cadmium and its compounds, expressed as cadmium (Total Cd)	2 µg/l			
		Copper and its compounds, expressed as copper (Total Cu)	150 µg/l			
		Lead and its compounds, expressed as lead (Total Pb)	100 µg/l			
		Nickel and its compounds, expressed as nickel (Total Ni)	100 µg/l			
		Zinc and its compounds, expressed as cadmium (Total Zn)	500 µg/l			
		Free cyanide	500 µg/l			
		Chromium and its compounds, expressed as chromium (Total Cr)	200 µg/l			

Schedule 4 – Reporting

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

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, A6, A7, A8, A9	Every 12 months	1 January
Emissions to water Parameters as required by condition 3.5.1	W1	Every 6 months	1 January, 1 July

Parameter	Units
Titanium product	tonnes

Parameter	Frequency of assessment	Units
Water usage	Annually	tonnes
Energy usage	Annually	MWh
Total raw material used	Annually	Tonnes
Waste disposal (including material sent for recovery).	Annually	tonnes

Media/parameter	Reporting format	Date of form
Air	Form air 1 or other form as agreed in writing by the Environment Agency	13/07/18
Water usage	Form water usage 1 or other form as agreed in writing by the Environment Agency	13/07/18
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	13/07/18
Annual Production	Form performance 1 or other form as agreed in writing by the Environment Agency	13/07/18
Waste subject to condition 4.2.5	Waste tonnage return from the Environment Agency website or other form as agreed in writing by the Environment Agency	As specified on .GOV.UK website

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	
Measures taken, or intended to be	

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

“disposal” means any of the operations 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.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 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.

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

“List of Wastes” means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time.

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

“monthly average” means the average over a period of a calendar month of valid daily averages obtained by continuous measurements

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

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes and in relation to hazardous waste, includes the asterisk.

“Waste Framework Directive” or “WFD” means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste

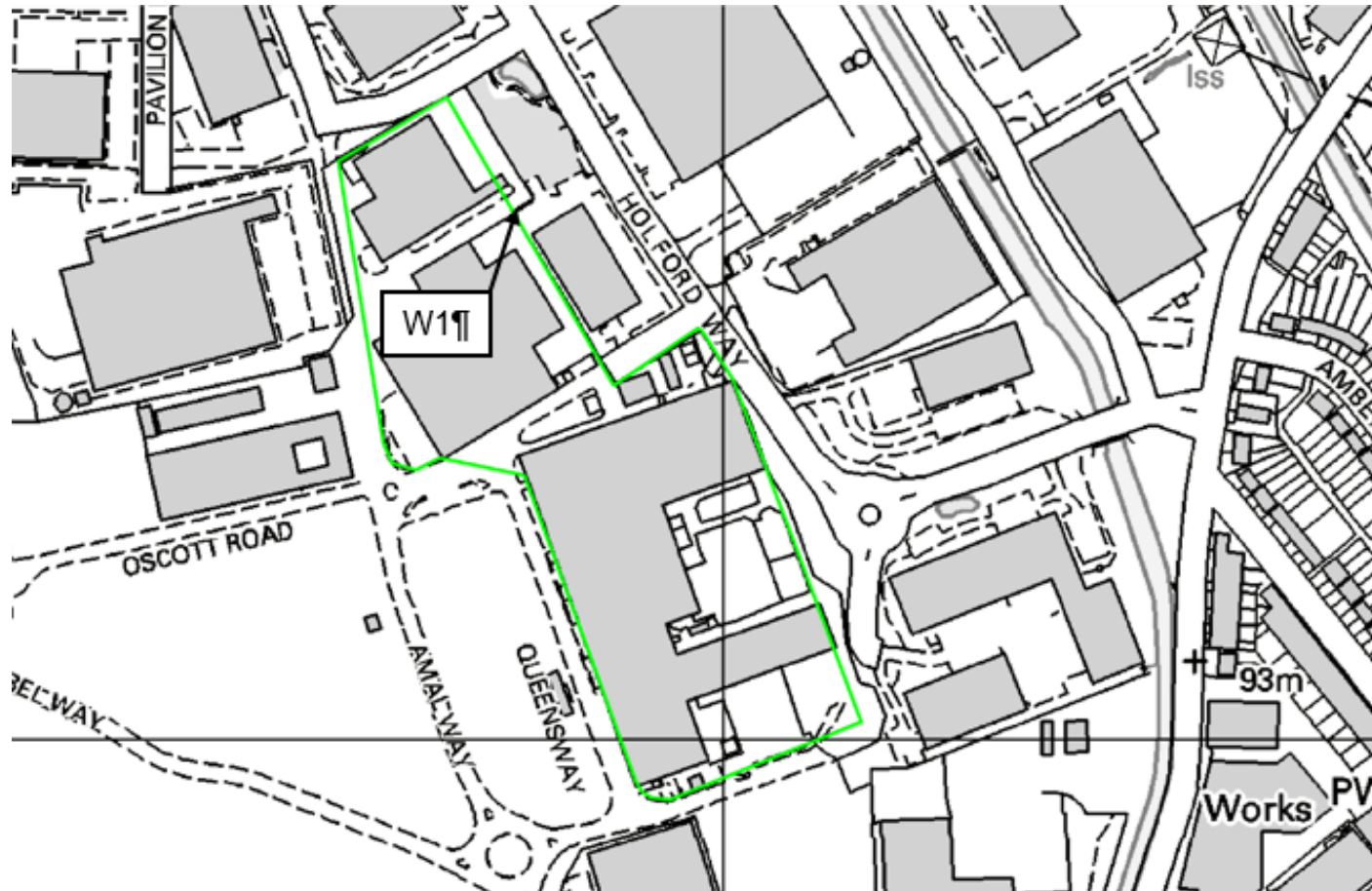
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

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

Permit number
EPR/BM5020IC