

## **Environment Agency**

### **Review of an Environmental Permit for an Installation subject to Chapter II of the Industrial Emissions Directive under the Environmental Permitting (England & Wales) Regulations 2016**

#### **Decision document recording our decision-making process following review of a permit**

The Permit number is: EPR/UP3138ZQ  
The Operator is: M L Operations Ltd  
The Installation is: Lead Works, Kiln Way  
This Variation Notice number is: EPR/UP3138ZQ/V003

#### **What this document is about**

Article 21(3) of the Industrial Emissions Directive (IED) requires the Environment Agency to review conditions in permits that it has issued and to ensure that the permit delivers compliance with relevant standards, within four years of the publication by the European Commission of updated decisions on BAT Conclusions.

We have reviewed the permit for this installation against the revised BAT Conclusions for the non-ferrous metals industries sector published on 30<sup>th</sup> June 2016 in the Official Journal of the European Union. Where appropriate, we also considered other relevant BAT Conclusions published prior to this date but not previously included in a permit review for the Installation. In this decision document, we set out the reasoning for the consolidated variation notice that we have issued.

It explains how we have reviewed and considered the techniques used by the Operator in the operation and control of the plant and activities of the installation. This review has been undertaken with reference to the decision made by the European Commission establishing best available techniques (BAT) conclusions (BATc) for the non-ferrous metals industries as detailed in the Official Journal of the European Union (L174) following a European Union, implementing decision (EU) 2016/1032 of 13<sup>th</sup> June 2016. It is our record of our decision-making process and shows how we have taken into account all relevant factors in reaching our position.

As well as considering the review of the operating techniques used by the Operator for the operation of the plant and activities of the installation, the consolidated variation notice takes into account and brings together in a

single document all previous variations that relate to the original permit issue. Where this has not already been done, it also modernises the entire permit to reflect the conditions contained in our current generic permit template.

The introduction of new template conditions makes the Permit consistent with our current general approach and with other permits issued to installations in this sector. Although the wording of some conditions has changed, while others have been deleted because of the new regulatory approach, it does not reduce the level of environmental protection achieved by the Permit in any way. In this document we therefore address only our determination of substantive issues relating to the new BAT Conclusions.

We try to explain our decision as accurately, comprehensively and plainly as possible. Achieving all three objectives is not always easy, and we would welcome any feedback as to how we might improve our decision documents in future.

## **How this document is structured**

1. Our proposed decision
2. How we reached our decision
3. The legal framework
4. Annex 1- Review of operating techniques within the Installation against BAT Conclusions
5. Annex 2a - Review and assessment of derogation request(s) made by the operator in relation to BAT Conclusions which include an Associated Emission Level (BAT-AEL) value
6. Annex 2b - Consultation responses
7. Annex 3 - Improvement Conditions
8. Annex 4 - Review and assessment of changes that are not part of the BAT Conclusions derived permit review
9. Annex 5 – Priority Compliance Issues & Detailed assessment of Regulation 60 Notice responses where future action likely

# 1 Our decision

We have decided to issue the Variation Notice to the Operator. This will allow it to continue to operate the Installation, subject to the conditions in the Consolidated Variation Notice that updates the whole permit.

We consider that, in reaching our decision, we have taken into account all relevant considerations and legal requirements and that the varied permit will ensure that a high level of protection is provided for the environment and human health.

The Consolidated Variation Notice contains many conditions taken from our standard Environmental Permit template including the relevant annexes. We developed these conditions in consultation with industry, having regard to the legal requirements of the Environmental Permitting Regulations and other relevant legislation. This document does not therefore include an explanation for these standard conditions. Where they are included in the Notice, we have considered the techniques identified by the operator for the operation of their installation, and have accepted that the details are sufficient and satisfactory to make those standard conditions appropriate. This document does, however, provide an explanation of our use of “tailor-made” or installation-specific conditions, or where our Permit template provides two or more options.

## 2 How we reached our decision

### 2.1 Requesting information to demonstrate compliance with BAT Conclusion techniques

We issued a Notice under regulation 60(1) of the Environmental Permitting (England and Wales) Regulations 2010 (a Regulation 60 Notice) on 16<sup>th</sup> December 2016 requiring the Operator to provide information to demonstrate where the operation of their installation currently meets, or how it will subsequently meet, the revised standards described in the relevant BAT Conclusions document.

The Notice required that where the revised standards are not currently met, the operator should provide information that

- Describes the techniques that will be implemented before 30<sup>th</sup> June 2020, which will then ensure that operations meet the revised standard, or
- justifies why standards will not be met by 30<sup>th</sup> June 2020, and confirmation of the date when the operation of those processes will cease within the installation or an explanation of why the revised BAT standard is not applicable to those processes, or
- justifies why an alternative technique will achieve the same level of environmental protection equivalent to the revised standard described in the BAT Conclusions.

Where the Operator proposed that they were not intending to meet a BAT standard that also included a BAT Associated Emission Level (BAT AEL) described in the BAT Conclusions Document, the Regulation 60 Notice required that the Operator make a formal request for derogation from compliance with that AEL (as provisioned by Article 15(4) of IED). In this circumstance, the Notice identified that any such request for derogation must be supported and justified by sufficient technical and commercial information that would enable us to determine acceptability of the derogation request.

The Regulation 60 Notice response from the Operator was received on 3<sup>rd</sup> May 2017.

We considered it was in the correct form and contained sufficient information for us to begin our determination of the permit review but not that it necessarily contained all the information we would need to complete that determination.

The Operator made no claim for commercial confidentiality. We have not received any information in relation to the Regulation 60 Notice response that appears to be confidential in relation to any party.

## 2.2 Review of our own information in respect to the capability of the installation to meet revised standards included in the BAT Conclusions document

Based on our records and previous experience in the regulation of the installation we have no reason to consider that the operator will not be able to comply with the techniques and standards described in the BAT Conclusions.

## 2.3 Requests for Further Information during determination

Although we were able to consider the Regulation 60 Notice response generally satisfactory at receipt, we did in fact need more information in order to complete our permit review assessment, and issued further information request in the form of a Regulation 61 Notice on 27/10/2017. A copy of the further information request was placed on our public register.

In addition to the response to our further information request, we received additional information and/or clarification from the operator during the determination as follows:

- Response to our email dated 09/01/2017, received 17/01/2018, regarding clarification regarding BAT Conclusions 2-10, 12-14, 16, 18, 19, 90-94, 98 and 107.
- Response to our email dated 17/01/2018, received from the site inspection officer on 17/01/2018 regarding BAT 13 compliance regarding monitoring for NOx.

- Response to our email dated 14/02/2018 received on 16/02/2018 and 23/02/2018 regarding compliance with BAT 2 (energy efficiency) and BAT 6 (diffuse emissions from Handling and storage of raw materials).

We made a copy of this information available to the public in the same way as the response to our information request.

## 2.4 Surface Water Pollution Risk Assessment

As part of our delivery of the Water Framework Directive (WFD) requirements, we need to identify and assess the impact of all sources of hazardous pollutants to surface waters from regulated industry. We use the term 'hazardous pollutants' to collectively describe substances covered by the EQSD<sup>1</sup> (priority hazardous substances, priority substances and "other pollutants"). It also applies to the specific pollutants listed in the 2015 Directions<sup>2</sup>, and substances which have operational (non-statutory) Environmental Quality Standards (EQS).

For all installations with discharges to surface water and/or sewer we required the operator, via our Regulation 60 Notice, to undertake a surface water pollution risk assessment, in two stages, as follows:

- a) Provide emissions data for the following hazardous pollutants: silver, arsenic, cadmium, cobalt, chromium (total), chromium (VI), copper, mercury, nickel, lead and zinc. The BAT Conclusions for the Non-Ferrous Metals Industries specify BAT-AELs associated with the direct discharge of these substances to surface water. We therefore considered that these substances potentially posed the highest risk from industry and listed them in our Regulation 60 Notice. In addition, operators were required to identify and assess any other hazardous pollutants that may be present in their effluent. A full list of hazardous pollutants is included in our surface water pollution risk assessment guidance, which we 'signposted' operators to via the Regulation 60 Notice.
- b) Undertake a risk assessment using the above emissions data to determine whether any hazardous pollutants were liable to cause pollution of the downstream receiving waters. The WFD requires Member States to prior regulate, all substances in a discharge which are "liable to cause pollution". Previously discharges from the Non-Ferrous Metals Industries were controlled on a "liable to contain" approach set by the Dangerous Substances Directive through either numeric limits, or descriptive conditions. Under the "liable to cause pollution" approach we would only consider applying numeric emission limits to those pollutants calculated to have the potential to cause pollution.

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<sup>1</sup> Environmental Quality Standards Directive (EQSD) (2008/105/EC, as amended by 2013/39/EU)

<sup>2</sup> The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015

The risk assessment methodology uses a number of sequential screening steps to determine if a substance warrants detailed modelling and hence any emission limits being required, namely:

- Screen out insignificant emissions that do not warrant further investigation;
- Determine if significant load test is failed (for priority hazardous substances only);
- Decide if detailed modelling is needed;
- Assess emissions against relevant standards and set permit limits where considered necessary.

The methodology provides for undertaking assessments of both direct and indirect discharges to surface water, 'indirect' meaning that the effluent is discharged to foul sewer from the installation and is treated at a sewage treatment works (STW) prior to discharge to surface water. Treatment at the STW will remove a proportion of a discharged substance from the final effluent discharged to the environment. This removal needs to be taken into account when calculating the concentration of a hazardous pollutant which will be discharged to a receiving water via the sewage works. This is achieved by applying STRFs (sewage treatment reduction factors) within the screening

The operator has confirmed that there is no water used in the process and therefore no process water is discharged to surface water or to sewer.

## 2.5 Condition of Soil and Groundwater

Articles 16 and 22 of the Industrial Emissions Directive (IED) require that a quantified baseline is established for the level of contamination of soil and groundwater with hazardous substances, in order that a comparison can be made on final cessation of activities.

We have used the non-ferrous metals permit review to regulate against the above IED requirements. Our Regulation 60 Notice required operators, where the activity of the installation involved the use, production or release of a relevant hazardous substance (as defined in Article 3(18) of the Industrial Emissions Directive), to carry out a risk assessment considering the possibility of soil and groundwater contamination at the installation with such substances. Where any risk of such contamination was established we requested that the operator either:

- prepare and submit a baseline report containing information necessary to determine the current state of soil and groundwater contamination; or
- provide a summary report referring to information previously submitted where they were satisfied that such information represented the current state of soil and groundwater contamination

so as to enable a quantified comparison to be made with the state of soil and groundwater contamination upon definitive cessation the activity.

Where operators concluded that there were no risks of soil or groundwater contamination (due to there not being any release of hazardous substances), they were required to provide a copy of the risk assessment.

The operator's response to this confirmed that the existing Site Condition Report is still accurate and is still representative of the site. Therefore no further information or assessment required.

### **3 The legal framework**

The Consolidated Variation Notice will be issued under Regulations 18 and 20 of the EPR. The Environmental Permitting regime is a legal vehicle which delivers most of the relevant legal requirements for activities falling within its scope. In particular, the regulated facility is:

- an *installation* as described by the IED;
- subject to aspects of other relevant legislation which also have to be addressed.

We consider that, in issuing the Consolidated Variation Notice, it will ensure that the operation of the Installation complies with all relevant legal requirements and that a high level of protection will be delivered for the environment and human health.

We explain how we have addressed specific statutory requirements more fully in the rest of this document.

We have set emission limit values (ELV's) in line with the BAT Conclusions, unless a tighter, i.e. more stringent, limit was previously imposed and these limits have been carried forward. For emissions to each relevant environmental receptor (i.e. air, or surface water), the emission limits and monitoring requirements have been incorporated into the Consolidated Variation Notice via two tables in Schedule 3 – Emissions and monitoring, as follows:

#### *Emissions to air*

- Table S3.1, the requirements of which are effective from the date of issue of the notice, and which contains the ELVs, where a BAT AEL is specified in the BAT conclusions, and any associated updated monitoring requirements. An explanation is provided in the Key issues section of this document.



## **Annex 1**

### **Review of operating techniques within the Installation against BAT Conclusions**

BAT Conclusions for the non-ferrous metals industries, were published by the European Commission on 30<sup>th</sup> June 2016. There are 184 BAT Conclusions. This annex provides a record of decisions made in relation to each relevant BAT Conclusion applicable to the installation.

This annex should be read in conjunction with the Consolidated Variation Notice.

The overall status of compliance with the BAT conclusion is indicated in the table as:

NA	Not Applicable
CC	Currently Compliant
FC	Compliant in the future (within 4 years of publication of BAT conclusions)
NC	Not Compliant

<b>Table 1: Decision checklist for relevant BAT Conclusions</b>		
<b>Summary of BAT Conclusion requirement for Non-Ferrous Metals Industries</b>	<b>Status NA / CC / FC / NC</b>	<b>Assessment of the installation capability to demonstrate compliance with the BAT Conclusion requirement Type of process: SECONDARY LEAD PRODUCTION</b>
BAT Conclusions that are not applicable to this installation	<b>NA</b>	<p><b>General BAT Conclusions for Non-Ferrous Metals Industries: 11, 12, 14, 15, 16 and 17</b></p> <p>BAT Conclusions for copper production: 20-54 inclusive            BAT Conclusions for alumina production: 55-57 inclusive            BAT Conclusions for anode production: 58-63 inclusive            BAT Conclusions for primary aluminium production: 64-73 inclusive            BAT Conclusions for secondary aluminium production: 74-86 inclusive            BAT Conclusions for salt slag recycling process: 87-89 inclusive</p> <p><b>BAT Conclusions for lead and/or tin production: 90, 91, 94, 95 and 100-106 inclusive</b></p> <p>BAT Conclusions for primary zinc production: 108-120 inclusive            BAT Conclusions for secondary zinc production, 121-130 inclusive            BAT Conclusions for cadmium production: 131-133 inclusive            BAT Conclusions for precious metals production: 134-149 inclusive            BAT Conclusions for ferro-alloys production: 150-162 inclusive            BAT Conclusions for nickel and/or cobalt production: 163-176 inclusive            BAT Conclusions for carbon and/or graphite production: 177-184 inclusive</p>

**Table 1: Decision checklist for relevant BAT Conclusions**

<b>Summary of BAT Conclusion requirement for Non-Ferrous Metals Industries</b>	<b>Status NA / CC / FC / NC</b>	<b>Assessment of the installation capability to demonstrate compliance with the BAT Conclusion requirement Type of process: SECONDARY LEAD PRODUCTION</b>
BAT Conclusions where we accept the operator’s Reg 60 notice response that they are currently compliant and no further explanation is required.	<b>CC</b>	General BAT Conclusions for Non-Ferrous Metals Industries: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 18 and 19. BAT Conclusions for secondary lead production: 92, 93, 96, 97, 98, 99, and 107
BAT Conclusions where improvements will be undertaken on site within the 4 year period in order to achieve compliance with the narrative and/or BATAEL prior to the 4 year deadline	<b>FC</b>	General BAT Conclusions for Non-Ferrous Metals Industries: None BAT Conclusions for copper production: None
BAT Conclusions where the Operator has responded that they are not compliant and have not submitted any plans to become compliant	<b>NC</b>	None

## **Key Issues**

Where relevant and appropriate, we have incorporated the techniques described by the Operator in their Regulation 60 / 61 Notice responses as specific operating techniques required by the permit, through their inclusion in Table S1.2 of the Consolidated Variation Notice.

### **BAT Conclusion 10**

BAT 10 sets out the minimum monitoring requirements for the NFM sector, stating that BAT is to monitor stack emissions to air with at least the frequency given and in accordance with EN standards. Furthermore, it says that if EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality. A potential issue is that BAT 10 specifies that continuous monitoring is BAT for a number of parameters, but this is then qualified by footnote (1) to the monitoring table, which states:

*“For sources of high emissions, BAT is continuous measurement or, where continuous measurement is not applicable, more frequent periodic monitoring.”*

‘High emissions’ are not defined in the BAT Conclusions / BREF, however the implication is that this term links to higher environmental impacts / risk. Continuous monitoring is typically used for controlling higher environmental risks, when the feedback from such monitoring is required for process controls (e.g. abatement, such as de-NO<sub>x</sub> and acid-gas scrubbing) and where the absence of such monitoring could result in a lack of sufficient control and significant impacts; or when periodic monitoring does not give sufficiently representative results.

Our view is that rather than referring to ‘high emissions’, we will consider what levels of emissions can BAT for abatement and process controls achieve, and having determined that, we will consider the following questions:

- Can periodic monitoring provide representative results?
- Can the installation keep within the ELVs under normal conditions without the need for process controls through continuous monitoring?
- Are there surrogate parameters available that can be used to reliably infer the emissions and at an acceptable level of uncertainty, in case there is a breakdown in the abatement equipment, or under abnormal operations?

If the answer is ‘yes’ to all of the above three questions, our view is that periodic monitoring could be deemed to provide a sufficient level of control and demonstration of compliance. However, if the answer is ‘no’ to one or more of the above questions - especially the first and second question, then we would consider continuous monitoring to be more appropriate for the site.

Monitoring requirements can also be influenced by environmental risk, for example, if the risks were very low, we could opt for a combination of surrogate parameters and/or more frequent periodic monitoring, rather than continuous monitoring. We will also take this into consideration when making our judgement.

The intention of the NFM review was to include an improvement condition in the permit to ask the operator to review their historical monitoring and justify the monitoring frequency which is BAT for their site (Once per year, more frequent periodic or continuous).

The operator has already provided monitoring data for the past 5 years and has demonstrated they are already operating to BAT requirements. The operator requested that the new BAT monitoring requirements were effective from the issuing of this permit variation (V002) as opposed to the compliance date 30<sup>th</sup> June 2020. The Environment Agency implemented this at the operators request.

The monitoring data for the past 5 years has confirmed that the monitoring is already undertaken in line with the standards and frequency outlined by BAT conclusion 10. The operator's data also confirms that for the majority of substances (as outlined by specific BAT conclusion below) emissions are consistently below that of the BAT AEL. The Environment Agency have therefore confirmed the required periodic monitoring frequency for each relevant substance is as follows:

- The monitoring frequency for Particulate Matter, PCCD/F, and a selection of relevant metals (including Lead) has been reduced to once per year.
- The monitoring frequency for Hydrogen Chloride, TVOC has been retained at twice per year.

In line with the BAT 10 requirements we have replaced monitoring of: copper, lead, nickel, zinc and their compounds taken together; antimony, tin, tellurium, and their compounds taken together; and cadmium, arsenic, mercury, thallium, selenium and their compounds taken together with monitoring of the following metals independently: Lead, Copper, Antimony, Cadmium, Arsenic and Tin.

The other metals have been removed from table 3.1 as they are not expected to be in large quantities within the emission.

### **BAT Conclusion 13**

We have removed the current ELV for NO<sub>x</sub>. From reviewing sector guidance and the previous monitoring results the Environment Agency has determined that the site is compliant with this BAT conclusion.

When comparing the historical NO<sub>x</sub> emissions data with potential performance values in SGN 2.03 we determined that the performance of the

onsite processes are of equivalence to the techniques outlined in the current BAT Conclusions'

#### **BAT Conclusion 96 and 97**

We have included an ELV for Particulate Matter of 4 mg/m<sup>3</sup> which is in accordance with the upper BAT-AEL value. This replaces the current ELV for furnace processes of 5 mg/m<sup>3</sup>. Therefore the ELV for the emission from the bag plant serving charging, smelting and tapping operations, A1 (Table S3.1), has been updated within the permit.

We have included an ELV for Lead of 1 mg/m<sup>3</sup> which is in accordance with the upper BAT-AEL value. This replaces the current ELV for furnace processes of 2 mg/m<sup>3</sup>. Therefore the ELV for the emission from the bag plant serving charging, smelting and tapping operations, A1 (Table S3.1) has been updated within the permit.

#### **BAT Conclusion 98**

We have included an ELV for Total Volatile Organic Carbon (TVOC) of 40 mg/m<sup>3</sup> which is in accordance with the upper BAT-AEL value. This replaces the current ELV for furnace processes of 50 mg/m<sup>3</sup>. Therefore the ELV for emission points A1 (Table S3.1) have been updated within the permit.

#### **BAT Conclusion 99**

We have retained the current ELV for Dioxins and Furans (PCCD/F) of 0.1 ng/m<sup>3</sup> I-TEQ as this is already in accordance with the BAT-AEL. There is no change therefore to emission points A1 (Table S3.1) from furnace processes.

## **Annex 2a**

### **Assessment, determination and decision where an application(s) for Derogation from BAT Conclusions with associated emission levels (AEL) has been requested.**

The IED enables a competent authority to allow derogations from BAT AELs stated in BAT Conclusions under specific circumstances as detailed under Article 15(4):

'By way of derogation from paragraph 3, and without prejudice to Article 18, the competent authority may, in specific cases, set less strict emission limit values. Such a derogation may apply only where an assessment shows that the achievement of emission levels associated with the best available techniques as described in BAT Conclusions would lead to disproportionately higher costs compared to the environmental benefits due to:

(a) the geographical location or the local environmental conditions of the installation concerned; or

(b) the technical characteristics of the installation concerned.

The competent authority shall document in an annex to the permit conditions the reasons for the application of the first subparagraph including the result of the assessment and the justification for the conditions imposed. '

A summary of any derogation granted is also recorded in Annex of the Consolidated Variation Notice in accordance with the requirement of IED Article 15(4) as described above.

The Operator did not request derogation from compliance with any AEL included within the BAT Conclusions as part of their Regulation 60 Notice response.

## **Annex 2b**

### **Advertising and Consultation on the draft decision**

This section is not applicable as no derogations from BAT-AEL's have been considered, nor is the installation a site of high public interest.



## **Annex 3**

### **Improvement Conditions**

The new consolidated permit does not have any improvement conditions. The operators Reg 60/61 responses provided all required information to ascertain compliance with the BAT conclusions. In addition all existing ICs from the previous permit variation had been completed and therefore have not been carried over to this consolidated permit.

## Annex 4

### **Review and assessment of changes that are not part of the BAT Conclusions derived permit review.**

#### **Scheduled Activities and Directly Associated Activities**

##### *Section 2.2A(1)(d) Activity Lead recovery process (MLR)*

In the existing permit the lead recovery process (MLR) which recovers the lead from the scrap metal kettle dross, the dross (skim) and trimmings from the sand box sheet casting, and imported lead drosses from other sites was listed as a Section 2.2 A(1)(d) activity.

The most recent Environmental Permitting Regulations from 2016 no longer has the section 2.2 A(1)(d) activity as a standalone listed activity with the associated process now being captured within the scope of other listed activities.

We have reviewed the scope of the on-site activities in line with our *RGN 2 Guidance: Understanding the meaning of a regulated facility* and we have decided that the lead recovery process meets the definition of a Directly Associated Activity. Therefore Table S1.1 has been updated to reflect this change.

##### *Directly Associated Activities – Continuous and Sand bed casting activities.*

We have reviewed the scope of the on-site activities in line with our *RGN 2 Guidance: Understanding the meaning of a regulated facility* and we have decided that both the continuous and sand bed casting activities should be considered within the scope of the Section 2.2A(1)(b) listed activity. This is because we do not consider there to be a technical break between the melting of the lead and casting of the lead sheet.

## Annex 5

### Priority Compliance Issues & detailed assessment of Regulation 60 Notice responses where future action likely

BATc Number	Compliance Issue  Priority BAT indicated in <b>Bold Text</b>	Relevant permit condition	Compliance stated by Operator  NA / CC / FC / NC	Compliance assessment conclusion  NA / CC / FC / NC	Summary of Permitting Officer assessment against BATc techniques	Compliance Action to implement BATc
	<b>BAT 1-19: General requirements</b>					
1	In order to improve the overall environmental performance, BAT is to implement and adhere to an environmental management system (EMS) that incorporates all of the features given	1.1	CC	CC	<p>The operator has confirmed in their response that they are currently compliant with BAT 1.</p> <p>The operator's response confirms that the operator has an ISO14001 accredited Environmental Management System.</p> <p>The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion.</p>	Review of EMS system to ensure that it has been updated to meet this requirement of BAT 1 during routine compliance visits
2	In order to use energy efficiently, BAT is to use a combination of the techniques given	1.2	CC	CC	<p>The operator has confirmed in their response that they are currently compliant with BAT 2.</p> <ul style="list-style-type: none"> <li>• BAT 2a Energy efficiency management system (e.g. ISO 50001)</li> <li>• BAT 2l Suitable insulation for high temperature equipment such as steam and hot water pipes</li> <li>• BAT 2n Use high efficiency electric motors equipped with variable-</li> </ul>	Review of Energy Management System to ensure compliance with BAT 2

BATc Number	Compliance Issue  Priority BAT indicated in <b>Bold Text</b>	Relevant permit condition	Compliance stated by Operator  NA / CC / FC / NC	Compliance assessment conclusion  NA / CC / FC / NC	Summary of Permitting Officer assessment against BATc techniques	Compliance Action to implement BATc
					<p>frequency drive, for equipment such as fans</p> <ul style="list-style-type: none"> <li>BAT 2o Use control systems that automatically activate the air extraction system or adjust the extraction rate depending on actual emissions</li> </ul> <p>A programme is underway to replace all lighting with LED fitting which will aid in the reduction of energy consumption although this techniques is not specifically mentioned in BAT 2</p> <p>The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion.</p>	
3	In order to improve overall environmental performance, BAT is to ensure stable process operation by using a process control system together with a combination of the techniques given	1.3	CC	CC	<p>The operator has confirmed in their response that they are currently compliant with BAT 3.</p> <p>The operator holds documented systems compliant with ISO 9001:2015, ISO 14001:2015 and OHSAS 18001 accredited by BSI. These form the Documented Process Control System.</p> <p>In addition the operator is compliant with the following BAT techniques:</p> <p>BAT 3c Feed weighing and metering system</p>	None

BATc Number	Compliance Issue  Priority BAT indicated in <b>Bold Text</b>	Relevant permit condition	Compliance stated by Operator  NA / CC / FC / NC	Compliance assessment conclusion  NA / CC / FC / NC	Summary of Permitting Officer assessment against BATc techniques	Compliance Action to implement BATc
					<p>BAT 3j temperature monitoring and control at melting furnaces to prevent metal and metal oxide fumes through overheating, temperature maintained below 450°C.</p> <p>The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion.</p>	
4	<p>In order to reduce channelled dust and metal emissions to air, BAT is to apply a maintenance management system which especially addresses the performance of dust abatement systems as part of the environmental management system (see BAT 1)</p>	3.1	CC	CC	<p>The operator has confirmed in their response that they are currently compliant with BAT 4.</p> <p>Planned preventative maintenance system in place with LEV maintenance plan designed to meet the requirements of CLAW [L132] and HSG258 and is included in the site EMS.</p> <p>The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion.</p>	None
5	<p>In order to prevent or, where this is not practicable, to 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>	3.2	NA	CC	<p>The operator has stated that this BAT Conclusion is not applicable to this site as the raw materials are not dusty</p> <p>The Environment Agency does not agree that this BAT is not applicable rather considers the site to be 'currently compliant' with this BAT conclusion. This is determined by the following:</p>	None

BATc Number	Compliance Issue  Priority BAT indicated in <b>Bold Text</b>	Relevant permit condition	Compliance stated by Operator  NA / CC / FC / NC	Compliance assessment conclusion  NA / CC / FC / NC	Summary of Permitting Officer assessment against BATc techniques	Compliance Action to implement BATc
					<ul style="list-style-type: none"> <li>• There are no process water emissions. The external site areas are hardstanding with drainage to an on-site lagoon with no overflow. All rainfall dependant site drainage is treated using an on-site interceptor to remove suspended solids oils and greases before it discharge to the lagoon.</li> <li>• The operator has confirmed in their response to other BAT conclusions (eg BAT9) that they are have enclosed hoods over each melting furnaces and continuous casting machine. The Environment Agency confirmed during a site visit on 5 December 2017 that these hoods are in place and the operator is able to collect fugitive emissions as close to source as possible.</li> <li>• It is recognised that all emissions to air from site process that are collected are treated via the site bag plant and filter.</li> <li>• It was evident from the site visit on 5 December 2017 that the stock pile of scrap lead delivered and stored outside was dust free and</li> </ul>	

BATc Number	Compliance Issue  Priority BAT indicated in <b>Bold Text</b>	Relevant permit condition	Compliance stated by Operator  NA / CC / FC / NC	Compliance assessment conclusion  NA / CC / FC / NC	Summary of Permitting Officer assessment against BATc techniques	Compliance Action to implement BATc
					<p>that the site had been recently swept (confirmed as weekly by the operator) Other raw materials are delivered in sealed drums or bags and are stored inside the building.</p> <ul style="list-style-type: none"> <li>• Drosses and filter bag dust are stored under cover in appropriate containers prior to removal and further treatment off site</li> </ul> <p>The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion.</p>	
6	<p>In order to prevent or, where this is not practicable, to reduce diffuse dust emissions to air, BAT is to set up and implement an action plan on diffuse dust emissions, as part of the environmental management system (see BAT 1), that incorporates both of the following measures:</p> <p>(a) identify the most relevant diffuse dust emission sources (using e.g. EN 15445);</p> <p>(b) define and implement appropriate actions and techniques to prevent or reduce diffuse emissions over a given time frame.</p>	3.2	CC	CC	<p>The operator has confirmed in their response that they are currently compliant with BAT 6</p> <p>M L Operations have an action plan in place to improve the efficiency and maintenance of the LEV's.</p> <p>Dust from feedstocks has been identified in the "Significant Aspect" procedures part of our EMS. There is a storage of feedstock procedure which deals with preventing / minimising dust from feedstocks during handling and storage. The only "potential problem" source of diffuse dust emissions from feedstocks is from the storage and movement of dross. Movement of dross is</p>	None

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					<p>either in a closed bin or sealed bag. Personnel who load / move dross are aware that they should reduce the dust as much as possible by utilising the correct equipment.</p> <p>The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion.</p>	
7	In order to prevent diffuse emissions from the storage of raw materials, BAT is to use a combination of the techniques given	3.2	CC	CC	<p>The operator has confirmed in their response that they are currently compliant with BAT 7.</p> <p>The operator is compliant with the following BAT techniques:</p> <ul style="list-style-type: none"> <li>• BAT 7k Design storage areas so that <ul style="list-style-type: none"> <li>○ Any leaks from tanks and delivery systems are intercepted and contained in bunds that have a capacity capable of containing at least the volume of the largest storage tank within the bund;</li> <li>○ Delivery points are within the bund to collect any spilled materials</li> </ul> </li> </ul>	None



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					<ul style="list-style-type: none"> <li>• BAT 7n Regular cleaning of the storage area and, where needed, moistening with water</li> <li>• BAT 7r Use oil and solid interceptors for the drainage of open outdoor storage areas. Use concrete areas that have kerbs or other containment devices for the storage of materials that can release oil, such as swarf.</li> </ul> <p>The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion.</p>	
8	In order to prevent diffuse emissions from the handling and transport of raw materials, BAT is to use a combination of the techniques given	3.2	CC	CC	<p>The operator has confirmed in their response that they are currently compliant with BAT 8.</p> <p>The operator is compliant with the following BAT techniques:</p> <ul style="list-style-type: none"> <li>• BAT 8c Suitable containers to handle pelletised materials</li> <li>• BAT 8o Use planned campaigns for road sweeping</li> <li>• BAT 8p Segregate incompatible materials (eg oxidising agents and organic materials)</li> </ul>	None

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					The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion.	
9	In order to prevent or, where this is not practicable, to reduce diffuse emissions from metal production, BAT is to optimise the efficiency of off-gas collection and treatment by using a combination of the techniques given	3.2	CC	CC	<p>The operator has confirmed in their response that they are currently compliant with BAT 9.</p> <p>The operator is compliant with the following BAT techniques:</p> <ul style="list-style-type: none"> <li>• BAT 9c Use a secondary hood for furnace operations such as charging and tapping</li> <li>• BAT 9d Dust or fume collection where dusty material transfers take place (eg furnace charging and tapping points, covered launders)</li> </ul> <p>The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion.</p>	None
10	BAT is to monitor the stack emissions to air with at least the given frequency and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality	3.1 3.5	CC	CC	<p>The operator has confirmed in their response that they are currently compliant with BAT 10 having adopted the required methodology and frequency of monitoring required by the BAT Conclusion</p> <p>The Environment Agency has reviewed the air emissions data for the past 5 years and has concluded that the levels, with the</p>	None

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					<p>exception of TVOC, are consistently below that of any revised BAT-AELs therefore no further information is required. Monitoring for TVOC will continue and a frequency of twice a year.</p> <p>The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion</p>	
11	<p>In order to reduce mercury emissions to air (other than those that are routed to the sulphuric acid plant) from a pyrometallurgical process, BAT is to use one or both of the techniques given.</p> <p>BAT-AEL for Hg</p>	N/A	CC	N/A	<p>The operator has indicated that they are currently compliant with BAT 11, the operator has confirmed that there is no mercury in the lead waste that they use as a raw material.</p> <p>Based on the above information provided by the operator the Environment Agency has determined that this BAT Conclusion is not applicable and therefore the operator is not expected to meet the Narrative or BAT-AEL aspects of the BAT conclusion.</p>	None
12	<p>In order to reduce emissions of SO<sub>2</sub> from off-gases with a high SO<sub>2</sub> content and to avoid the generation of waste from the flue-gas cleaning system, BAT is to recover sulphur by producing sulphuric acid or liquid SO<sub>2</sub></p>	N/A	N/A	N/A	<p>The operator has confirmed in their response that they do not accept raw materials on to site that contain sulphur</p> <p>Based on the above the Environment Agency has determined that this BAT conclusion is not applicable.</p>	None

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13	In order to prevent NOx emissions to air from a pyrometallurgical process, BAT is to use one of the techniques given	3.1	N/A	CC	<p>The operator has stated in their response that this BAT conclusion is not applicable to the activities on site.</p> <p>During the permit history NOx emissions from the site have been shown to be at insignificant levels, and this lead to the NOx monitoring requirements being removed from the permit.</p> <p>During the permit review the Environment Agency considered whether the site needed to implement any low NOx technologies onto their burners as result of the new BAT conclusions specifically BAT13.</p> <p>When comparing the historical NOx emissions data with potential performance values in SGN 2.03 we determined that the performance of the onsite processes are of equivalence to the techniques outlined in the current BAT Conclusions'</p> <p>Based on the above the Environment Agency has determined that this BAT Conclusion is applicable to this installation and that the site is already operating below the benchmark levels and can therefore be considered as being compliant with this BAT conclusion</p>	None

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14	In order to prevent or reduce the generation of waste water, BAT is to use one or a combination of the techniques given	3.1	CC	CC	<p>The operator has confirmed in their response that they are currently compliant with BAT 14.</p> <p>The permitted activity uses no process water</p> <p>The casting plant uses the following BAT technique.</p> <ul style="list-style-type: none"> <li>• BAT 14f Used a closed circuit cooling system.</li> </ul> <p>The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion.</p>	None
15	In order to prevent the contamination of water and to reduce emissions to water, BAT is to segregate uncontaminated waste water streams from waste water streams requiring treatment	N/A	NA	NA	<p>The operator has stated in their response that this BAT conclusion is not applicable to the activities on site.</p> <p>The Environment Agency agrees with the operator that this BAT Conclusion is not applicable for this installation as there is no on-site treatment of wastewater.</p>	None
16	BAT is 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 standards. If EN standards are not available, BAT is to use ISO,	N/A	N/A	N/A	The Environment Agency considers that this BAT conclusion is not applicable to this site. The with the operator that this BAT Conclusion is not applicable as there is no discharge of wastewater to surface water or sewer from this installation.	None

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	<p>national or other international standards that ensure the provision of data of an equivalent scientific quality.</p> <p>The monitoring frequency may be adapted if the data series clearly demonstrate sufficient stability of the emissions</p>					
17	<p>In order to reduce emissions to water, BAT is to treat the leakages from the storage of liquids and the waste water from non-ferrous metals production, including from the washing stage in the Waelz kiln process, and to remove metals and sulphates by using a combination of the techniques given</p>	NA	NA	NA	<p>The operator has stated in their response that this BAT conclusion is not applicable to the activities on site.</p> <p>The BAT-AELs for BAT 17 relate to direct emissions to receiving waters (as opposed to indirect emissions made via the foul sewer) so are not applicable to this installation</p> <p>The Environment Agency agrees with the operator that this BAT Conclusion is not applicable as there is no wastewater discharged from the installations.</p>	None.
18	<p>In order to reduce noise emissions, BAT is to use one or a combination of the techniques given</p>	3.4	CC	CC	<p>The operator has confirmed in their response that they are currently compliant with BAT 18.</p> <p>The operator is compliant with the following BAT techniques:</p>	None

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					<ul style="list-style-type: none"> <li>• BAT 18a Use embankment to screen the source of the noise</li> <li>• BAT 18b Enclose noisy plants or components in sound-absorbing structures</li> </ul> <p>The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion</p>	
19	In order to reduce odour emissions, BAT is to use one or a combination of the techniques given	3.3	CC	CC	<p>The operator has confirmed in their response that they are currently compliant with BAT 19.</p> <p>The operator is compliant with the following BAT technique:</p> <ul style="list-style-type: none"> <li>• BAT 19b Minimise the use of odorous materials</li> </ul> <p>The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion</p>	None
<b>BAT 90-107: Lead and/or tin production</b>						
90	In order to prevent or reduce diffuse emissions from preparation (such as metering, mixing, blending, crushing, cutting, screening) of primary and secondary materials (excluding batteries), BAT is to use one or a combination of the techniques given	N/A	N/A	N/A	The operator has stated in their response that this BAT conclusion is not applicable as no material preparation takes place on site	None

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					The Environment Agency agrees with the operator that this BAT Conclusion is not applicable.	
91	In order to prevent or reduce diffuse emissions from material pretreatment (such as drying, dismantling, sintering, briquetting, pelletising and battery crushing, screening and classifying) in primary lead and secondary lead and/or tin production, BAT is to use one or both of the techniques given	N/A	N/A	N/A	The operator has stated in their response that this BAT conclusion is not applicable as there is no material pre-treatment carried out on site, all raw materials arrive on site in a prepared form ready for direct addition into the process.  The Environment Agency agrees with the operator that this BAT Conclusion is not applicable.	None
92	In order to prevent or reduce diffuse emissions from charging, smelting and tapping operations in lead and/or tin production, and from pre-decuppering operations in primary lead production, BAT is to use an appropriate combination of the techniques given	3.2	CC	CC	The operator has confirmed in their response that they are currently compliant with BAT 92.  The furnace building is now fully enclosed and served by LEV roof extraction. Doors only open to allow charges to be placed into furnace but are automatically controlled so close after FLT leaves building. Fast rate shutter doors installed on all furnace entrances.  The operator is compliant with the following BAT techniques: <ul style="list-style-type: none"> <li>• BAT 92d Capture hood/enclosure at charging and tapping point</li> </ul>	None



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					<ul style="list-style-type: none"> <li>BAT92e Enclosed building</li> </ul> <p>The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion.</p>	
93	In order to prevent or reduce diffuse emissions from remelting, refining and casting in primary and secondary lead and/or tin production, BAT is to use a combination of the techniques given	3.2	CC	CC	<p>The operator has confirmed in their response that they are currently compliant with BAT 93.</p> <p>The operator is compliant with the following BAT techniques:</p> <ul style="list-style-type: none"> <li>BAT 93a Hood on the crucible furnace or kettle with an air extraction system</li> <li>BAT 93b Lids to close the kettle during the refining reaction and addition of chemicals</li> <li>BAT 93c Hood with an extraction system at launders and tapping point</li> <li>BAT 93d Temperature control of the melt</li> <li>BAT 93e Closed mechanical skimmers for the removal of dusty dross/residues</li> </ul>	None

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					<p>The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion.</p> <p>Further to the above the operator is undergoing additional works on the LEV on the melting and refining kettles and casting areas required as part of their CLAW and HSE requirements. This will only improve emission capture and compliance against this BAT conclusion.</p>	
94	<p>In order to reduce dust and metal emissions to air from raw material preparation (such as reception, handling, storage, metering, mixing, blending, drying, crushing, cutting and screening) in primary and secondary lead/or and tin production, BAT is to use a bag filter</p> <p>BAT-AEL for Dust</p>	NA	NA	NA	<p>The operators initial response stated that this BAT Conclusion is not applicable to this site as the raw materials do not require preparation.</p> <p>However the raw materials are received, handled and stored, and these activities are listed as 'preparation' in BAT 94. Therefore the Environment Agency considered this BAT conclusion applicable to the site</p> <p>The operator has broadened their opinion of the applicability of this BAT conclusion by confirming that</p> <ul style="list-style-type: none"> <li>• Bulk Materials make up the majority of their feed stock and this provides limited opportunity for dust arisings.</li> </ul>	None

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					<p>Feedstocks mainly consist of large loose materials are generally large items, e.g. demolition wastes such as flashings.</p> <ul style="list-style-type: none"> <li>• No crushing or shredding operations are carried out on the lead feedstocks.</li> <li>• all raw materials arrive on site in a prepared form ready for direct addition into the process.</li> </ul> <p>In light of this information and after observing the site process during a site visit on 05/12/17 the Environment Agency agree with the operator that BAT 94 is not applicable at the site and the operator doesn't need to meet the BAT-AEL</p> <p>Environment Agency has agreed that this BAT Conclusion is not applicable.</p>	
95	<p>In order to reduce dust and metal emissions to air from battery preparation (crushing, screening and classifying), BAT is to use a bag filter or a wet scrubber</p> <p>BAT-AEL for Dust</p>	NA	NA	NA	<p>The Environment Agency has determined that this BAT Conclusion is not applicable to this site as they do not process batteries.</p>	None.

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96	In order to reduce dust and metal emissions to air (other than those that are routed to the sulphuric acid or liquid SO <sub>2</sub> plant) from charging, smelting and tapping in primary and secondary lead and/or tin production, BAT is to use a bag filter  BAT-AELs for Dust and Pb	3.1	CC	CC	<p>The operator has confirmed in their response that they are currently compliant with BAT 96.</p> <p>All emissions to air are collected and directed through the bag filter plant prior to release</p> <p><b>Stack Test emissions Oct 16</b> Total Particulate Matter = 0.50mg/m<sup>3</sup>, Lead, copper, Nickel &amp; Zinc 0.11mg/m<sup>3</sup>.</p> <p><b>Lead in air test Feb 17</b> (static monitor sited next to scrapper kettle) Total Dust 0.129mg/m<sup>3</sup> and Lead 0.015mg/m<sup>3</sup></p> <p>The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion.</p>	None
97	In order to reduce dust and metal emissions to air from remelting, refining and casting in primary and secondary lead and/or tin production, BAT is to use the techniques given  BAT-AELs for Dust and Pb	N/A	CC	CC	<p>The operator has confirmed in their response that they are currently compliant with BAT 97.</p> <p>The operators' response confirms that they employs the following technique</p> <ul style="list-style-type: none"> <li>• BAT 97a: For pyrometallurgical processes: maintain the temperature of the melt bath at the lowest possible level according to</li> </ul>	None

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					<p>the process stage in combination with a bag filter.</p> <p>The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion.</p>	
98	<p>In order to reduce emissions of organic compounds to air from the raw material drying and smelting process in secondary lead and/or tin production, BAT is to use one or a combination of the techniques given</p> <p>BAT-AEL for TVOC</p>	3.1	CC	CC	<p>The operator has confirmed in their response that they are currently compliant with BAT 98.</p> <p>The operator has confirmed that they use technique a</p> <ul style="list-style-type: none"> <li>• BAT 98a Select and feed raw materials according to the furnace and abatement systems used</li> </ul> <p>The operators' response also confirms that the current TVOC air emission results are less than or equal to those indicated by BAT 98:</p> <ul style="list-style-type: none"> <li>• M L Operations Limited confirm that their results have been within the 10-40 mg/Nm<sup>3</sup> range for the last 5 years.</li> </ul> <p>The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion.</p>	

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99	In order to reduce PCDD/F emissions to air from the smelting of secondary lead and/or tin raw materials, BAT is to use one or a combination of the techniques given  BAT-AEL for PCDD/F	N/A	CC	CC	<p>The operator has confirmed in their response that they are currently compliant with BAT 98.</p> <p>The operator has confirmed that they use technique a</p> <ul style="list-style-type: none"> <li>BAT 99a Select and feed raw materials according to the furnace and abatement systems used</li> </ul> <p>The operators' response also confirms that the current PCDD/F air emission results are less than or equal to those indicated by BAT 99:</p> <ul style="list-style-type: none"> <li>M L Operations Limited confirm that their results have been within the &gt; 0.1µg/Nm<sup>3</sup> range for the last 5 years.</li> </ul> <p>The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion.</p>	
100	In order to prevent or reduce SO <sub>2</sub> emissions to air (other than those that are routed to the sulphuric acid or liquid SO <sub>2</sub> plant) from charging, smelting and tapping in primary and secondary lead and/or tin production,	N/A	CC	NA	<p>The operator has confirmed in their response to BAT 12 that their raw materials do not contain sulphur.</p> <p>As there is no sulphur added to the process the Environment Agency consider this BAT AEL not applicable to this site's operations.</p>	None

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	BAT is to use one or a combination of the techniques given BAT-AEL for SO 2					
101	In order to prevent the contamination of soil and groundwater from battery storage, crushing, screening and classifying operations, BAT is to use an acid-resistant floor surface and a system for the collection of acid spillages	NA	NA	NA	The Environment Agency has determined that this BAT Conclusion is not applicable to this site as they do not process batteries.	None
102	In order to prevent the generation of waste water from the alkaline leaching process, BAT is to reuse the water from the sodium sulphate crystallisation of the alkali salt solution	NA	NA	NA	The Environment Agency has determined that this BAT Conclusion is not applicable to this site as they do not process batteries.	None
103	In order to reduce emissions to water from battery preparation when the acid mist is sent to the waste water treatment plant, BAT is to operate an adequately designed waste water treatment plant to abate the pollutants contained in this stream	NA	NA	NA	The Environment Agency has determined that this BAT Conclusion is not applicable to this site as they do not process batteries.	None
104	In order to reduce the quantities of waste sent for disposal from primary lead production, BAT is to organise	NA	NA	NA	The Environment Agency has determined that this BAT Conclusion is not applicable	None

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	operations on site so as to facilitate process residues reuse or, failing that, process residues recycling, including by using one or a combination of the techniques given				to this site as they do not undertake primary lead production.	
105	In order to allow the recovery of the polypropylene and polyethylene content of the lead battery, BAT is to separate it from the batteries prior to smelting	NA	NA	NA	The Environment Agency has determined that this BAT Conclusion is not applicable to this site as they do not process batteries.	None
106	In order to reuse or recover the sulphuric acid collected from the battery recovery process, BAT is to organise operations on site so as to facilitate its internal or external reuse or recycling, including one or a combination of the techniques given	NA	NA	NA	The Environment Agency has determined that this BAT Conclusion is not applicable to this site as they do not process batteries.	None
107	In order to reduce the quantities of waste sent for disposal from secondary lead and/or tin production, BAT is to organise operations on site so as to facilitate process residues reuse or, failing that, process residues recycling, including by using one or a combination of the techniques given	2.3	CC	CC	<p>The operator has confirmed in their response that they are currently compliant with BAT 107.</p> <p>The operator's response confirms that ML Operations Limited recycle waste materials containing lead.</p> <ul style="list-style-type: none"> <li>• BAT 107b Melt dross is sent to an external waste reprocessor</li> </ul>	None



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					The Environment Agency is satisfied that the operator meets the requirements of this BAT Conclusion.	