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# **Boulby Mine**

# **North York Moors National Park**

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Review of the second round of Further Environmental Information submitted in support for proposals to extend the operational life of Boulby Mine (NYM/2019/0764/MEIA)

Document title: Review of the second round of Further Environmental Information

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Project: Boulby Mine

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Client: North York Moors National Park Authority

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# 1.0 Introduction

## Purpose of this document

- 1.1.1 This document details a review of the second round of Further Environmental information (FEI) that has been submitted to supplement the information previously provided as part of the planning application by Cleveland Potash Limited for the extension of life of Boulby Mine in North York Moors National Park, Planning Application Reference NYM/2019/0764/MEIA.
- 1.1.2 Savills undertook a review of the Environmental Statement (ES) submitted as part of the original planning application. This review completed in March 2020 identified a number of concerns and issues where clarification was required prior to North York Moors National Park Authority (NYMNP) being able to fully understand the likely significant environmental effects of the proposals. This information was passed through to the applicants and, in response, further additional information was submitted to support the application. This information was consulted upon in late 2020. Following this public consultation a number of concerns were raised regarding the updated environmental information. As such, Savills were instructed to undertake a review of the FEI, leading to a second request for further environmental information. This information was received in spring and early summer 2021 and once again, in accordance with the Regulations has been consulted upon.
- 1.1.3 Following the consultation in summer 2021 of the second round of FEI, a number of consultation responses have been received identifying areas where there remains some area of disagreement. In order to provide the NPA with an independent view, Savills have been appointed to undertake a high-level review of the FEI, with a particular focus on Noise and vibration issues and also with some focus on traffic and transport and carbon emissions.

## Background

- 1.1.4 Boulby mine is located between the villages of Staithes and Easington close to the northern coastline of the North York Moors National Park. The mine site covers an operational area above ground of 32 hectares (ha). Potash and salt are extracted from the mine from resources located between 1,000m and 1,300m below the North York Moors and the North Sea. The minerals are extracted and then crushed, screened and processed on site. The potash is primarily removed from site by rail with a limited number of HGV movements permitted to take the salt from site by road.
- 1.1.5 The mine is currently operating at extraction levels of one million tonnes of product per year. It is estimated that the current mine has a capacity for the extraction of three million tonnes per year once all factors such as shift capacity, transport capabilities and environmental regulatory controls have been taken into account.
- 1.1.6 The mine has been operational since 1973 and is currently operating under the most recent planning permission secured in 1998. The consent enables mining onshore across an area of 13,740 hectares whilst working takes place offshore under a licence issued by the Crown Estate. A condition of the 1998 consent requires the mine to cease production in 2023 and the site to be reclaimed and restored over a two year period.

- 1.1.7 The planning application, submitted in 2020, seeks planning permission for the winning and working of polyhalite and salt for a period of 25 years from 2023, the temporary importation of muriate of potash to allow the production of fertiliser products, retention and operation of all surface installations, buildings, plant etc subject to a phased deconstruction plan within the 25 year period and a three year period for site decommissioning and restoration at the end of the 25 year period.
- 1.1.8 An EIA scoping report was submitted by the Applicant in June 2017, this was reviewed on behalf of the National Park Authority by Savills and a report produced which was used to form the scoping opinion was provided in August 2017.

## 2.0 Review of the Environmental Statement

### Background

2.1.1 Savills undertook a review of the submitted Environmental Statement (ES) in 2020, the conclusion of the review set out a detailed table of comments and actions against the Institute of Environmental Management and Assessment's (IEMA) EIA Review Criteria. The findings of the review identified the main themes and issues that needed to be addressed prior to NYMNPA being able to fully assess the environmental impacts of the proposed development. The headline issues fell under the following key areas:

- Assessment scenarios and timeframes;
- Use of baseline data and guidance;
- EIA regulatory requirements; and,
- Other issues.

### First round of FEI and consultation

2.1.2 Following the submission of further information, Savills undertook an updated review in January 2021. The findings of the review identified the main themes and issues that needed to be addressed prior to NYMNPA being able to fully assess the environmental impacts of the proposed development. The headline issues fell under the following key areas:

- Requirement for clear identification of documentation submitted under the EIA Regulations;
- Inclusion of the solar farm and the need to ensure that this is fully assessed as part of the EIA;
- The high-level assessment of the deconstruction process;
- Queries regarding the night-time assessment and mitigation;
- Details and assessment of the office / workshop building;
- Confirmation of the status of the Teesside facility, the commitments to transfer of processing and the environmental effects associated with this; and,
- Requirement for a consistent approach to mitigation.

### Second round of FEI and consultation

2.1.3 Following on from the feedback contained within the Savills review and further consultation responses received. The applicants have submitted a new round of further information which was consulted upon during the summer of 2021.

### Purpose of this review

2.1.4 Savills have been appointed to undertake an independent review into this second round of FEI submitted to NYMNPA in order to provide a view on the information submitted and whether NYMNPA are in a position to fully understand the likely significant effects of the proposed development and therefore are in a position to determine the application.

2.1.5 The information that has been submitted as formal FEI and therefore considered as part of this review consists of the following:

- Noise Chapter, Wood, March 2021
  - Supporting information and Clarification letter, Wood, April 2021
  - Environmental Statement Further Information, Wood, April 2021
  - Technical Note: Boulby Mine: additional mitigation relating to operational impacts, Wood, June 2021
- 2.1.6 Additional information that has been submitted to NYMNPA, but remains pertinent to consideration of environmental issues, has also been reviewed. This consists of the following:
- Consultation response from CPRE August 2021
  - Consultation response on behalf of Anglo American Woodsmith Ltd 25 August 2021
- 2.1.7 Based on the consultation responses received, NYMNPA have identified that there remain a number of areas of contention, where specific guidance is sought. Primarily this relates to noise and vibration, other areas include traffic and transport and carbon emissions. The review therefore provides specific analysis of the noise and vibration elements and then a high level review of the remainder of the FEI with a focus upon traffic and transport and carbon emissions.

## 3.0 General review findings

### Approach

- 3.1.1 This review has considered the documents submitted during 2021 by Wood to respond to the findings of the reviews undertaken by Savills and NYMNPA and consultation responses received. The review has considered the new submissions provided by the applicant and the consultation responses submitted by Anglo American and CPRE. The aim of the review is to assist the NPA in understanding whether the information presented as part of the application enables a full understanding of the likely significant effects of the proposals.
- 3.1.2 Section 4 of this report provides a specific detailed review in regard to noise, therefore relevant issues pertinent to noise have not been covered in this general review. The issues have been grouped thematically in the table below to avoid unnecessary repetition.

| Document reviewed and comment  | Review response and action   |
|--|--|
| <i>Regulatory issues</i>   |  |
| <u>ES FI April 2021</u><br>Listed what constitutes FEI   | Noted, no further actions following the clarification.   |
| <i>Solar farm and energy generation</i>  |  |
| <u>ES FI April 2021</u><br>2.1.1.2 References to the removal of the solar farm proposal from the application and the intent to identify off-site peat capture to meet policy requirements.   | Confirm that should the solar farm proposal be resurrected or an alternative large scale renewable scheme be proposed this would need to be considered as part of the EIA.   |
| <u>Further response letter 25.08.21</u><br>Solar Farm / Policy ENV8.<br>‘...CPL’s intent to satisfy Policy ENV8 through financial contributions towards off-site peat capture. This process will first require an assessment to be made as to the quantum of carbon equivalent that will be associated with the future mining operation. This exercise needs to be considered in the context of the processing facility potentially remaining on the Boulby site and also the extent to which certain buildings / structures may or may not be reduced in size.’ | It is noted that the applicant has committed to the removal of processing at the site by 2027 and it is recommended that NYMNPA ensure that this is secured through an appropriately worded planning condition.<br><br>It is not the role of the EIA to assess compliance with planning policy. The role of the EIA is to assess the likely environmental effects of the proposed development.<br><br>An assessment of the carbon associated with the continued operations at the site should be made and reported, however, it is incorrect to state that there will be significant benefits post 2027 when the processing facility is removed as the emissions will simply be relocated to another location, not eliminated. |

| Document reviewed and comment   | Review response and action  |
|---|---|
| <i>Deconstruction works</i>   |   |
| <p><u>ES FI April 2021</u></p> <p>2.2.1.2 'From the work undertaken to date by CPL it is expected that this building would be reduced in height by around 50%...'</p>   | <p>In order to be in accordance with the EIA Regulations, the applicant needs to ensure that worst case scenario is being assessed. The deconstruction proposals are high level and quantitative and this lack of certainty regarding the reduction in height has therefore not been fully assessed.</p>  |
| <p><u>Further Response letter 25.08.21</u></p> <p>'The additional information submitted by CPL also confirms that there is uncertainty regarding the extent to which the main plant building will be reduced in terms of scale. It is not clear how this has been reconciled within the visual impact assessment included in the original ES which, having not been updated since October 2019, does not reflect the latest proposed phasing of deconstruction.'</p>  | <p>There remains uncertainty regarding the change in height of the building and therefore it is conceivably possible that it may remain in its entirety or at a higher level than 50% which has not been assessed.</p> <p>If this cannot be confirmed then the NPA need to ensure a mechanism within the conditions of any consent to ensure that what has been assessed has been achieved.</p>   |
| <p><u>Further response letter 25.08.21</u></p> <p>Removal of buildings and structures</p> <p>'...concerns regarding a lack of certainty around the removal of buildings and structure from the mine site...a substantive risk remains that these buildings could remain on site for a much longer period than anticipated and, as a worst case scenario, retained permanently. Given that the proposed deconstruction / removal of the structures is entirely predicated on the mobilisation of an off-site processing facility (over which the NYMNPA have no control), this is a credible possibility that has yet to be considered fully in the ES.'</p> |   |
| <p><u>ES FI April 2021</u></p> <p>Table 5.1 'The fact that the deconstruction proposals are of a 'critical nature' to the proposals is not a reason for them to be considered in the EIA. The requirement for an assessment and the detail of that assessment must be proportionate and no longer than necessary.'</p>  | <p>The assessment for the deconstruction work remains high level and qualitative, with no detail and quantitative assessment provided. Whilst this may not ultimately alter the outcomes it is difficult to understand whether this is the case in the absence of data. Specifically, this lack of assessment presents particular concerns in regard to landscape and visual and noise. The mitigation measures associated with the deconstruction process should be clearly defined.</p> |
| <p><u>ES FI April 2021</u></p> <p>2.2.1.5 'The exact methods of deconstruction of the structure itself would need to be confirmed by demolition contractors in a method statement...'</p>   | <p>NYMNPA need to ensure that this is conditioned as part of any approval to ensure the effects are as assessed and managed appropriately.</p>  |



| Document reviewed and comment  | Review response and action  |
|--|---|
| <p><u>Further response letter 25.08.21</u></p> <p>Waste associated with the deconstruction process.</p> <p>'...no evidence has been provided to show how this has been considered against the waste hierarchy set out in policy W01 of the emerging Minerals and Waste Joint Plan and how the development ...would also comply with the principles of draft Policy D11 which makes clear that proposals should minimise waste generated during construction. In order to address the points above, the ES should be fully updated to assess a confirmed quantum of development and, where this is not known, a worst case scenario is adopted which considers the full extent of buildings and structures remaining in place for the full extended period of the mining operation (and beyond). Further information should also be submitted by CPL as to how the proposed disposal of waste has been considered against the waste hierarchy.'</p> | <p>It is not the role of the ES to demonstrate the compliance or otherwise with planning policy, the role of the ES is to identify likely significant effects. Therefore it is not agreed that the ES needs to consider waste against these policies.</p>   |
| <p><u>ES FI April 2021</u></p> <p>2.2.1.7 Refers to the fact that it is unlikely that much of the waste will be able to be recycled on site. Estimates that around 13,500 tonnes of waste will need to be disposed of off-site, the majority being inert C&amp;D waste with a small proportion classified as hazardous waste. Refers to regional waste figures for 2019.</p>   | <p>The assessment for waste is acknowledged and accepted. No further action required.</p>   |
| <i>Climate</i>   |   |
| <p><u>ES FI April 2021</u></p> <p>4.2.1.3 and 4.2.1.4 Refers to energy consumption at the mine, including electricity and gas use for the processing of minerals up until 2027.</p>  | <p>Noted, the applicant's commitment to remove processing from the site by 2027 should be secured through planning condition by NYMNPA.</p> <p>It is not the role of EIA to demonstrate policy compliance.</p> <p>Whilst the carbon emissions are no longer being considered at the Boulby site, the development of a new facility at Teesside (or at another to be defined location) will require a full assessment of likely carbon emissions, therefore whilst they are not being assessed at this stage, the emissions will be captured at a later stage.</p> |

| Document reviewed and comment  | Review response and action  |
|--|---|
| <p>Table 5.1 'Regardless of whether a Teesside facility is developed or not, CPL has committed to the Proposed Development and the reduction of processing activities and deconstruction of buildings and structures at Boulby Mine by the dates indicated. Whilst the processing facility on Boulby Mine is CPL's preferred option for processing the polyhalite extracted from Boulby Mine, this facility has not yet been designed and therefore it is impossible for any assessment to take place of the GHG emissions that will result from such a facility. Therefore there is no obligation to consider it in the EIA. Any Teesside facility will produce emissions from its activities, but they would be expected to be lower than the existing facility at Boulby Mine as more modern bespoke equipment will be utilised. In this regard it will be an improvement over the current situation and therefore the facility would be consistent with the need to reduce emissions to address the causes of climate change.'</p> |   |
| <p><u>Further response letter 25.08.21</u></p> <p>Teesside facility. 'Given that the delivery of the off-site processing facility is integral to the mitigation package that is proposed as part of the development, this needs to be fully considered within the EIA.'</p> <p>'No assessment of impacts from either a processing facility at Teesside or the impacts associated with material being transported to a facility in Europe has been undertaken. Without an understanding of the environmental impacts associated with either option, neither of these options may be feasible. As such processing may be required to continue on the existing site.'</p>   | <p>Noted, the applicant's commitment to remove processing from the site by 2027 should be secured through planning condition by NYMNPA.</p> <p>It is not the role of EIA to demonstrate policy compliance.</p> <p>Reference is made to the 2020 EIA case law judgement of R (Finch) v Surrey County Council. See paragraph 3.1.3 at the end of this table for further details.</p> <p>Whilst the carbon emissions are no longer being considered at the Boulby site, the development of a new facility at Teesside (or at another to be defined location) will require a full assessment of likely carbon emissions, therefore whilst they are not being assessed at this stage, the emissions will be captured at a later stage.</p> |
| <p><u>Further response letter 25.08.21</u></p> <p>'There is a failure to adequately consider the total GHG arisings from the development...it is claimed that GHG 'savings' are made from the removal of processing from Boulby Mine, with no consideration of the GHG emissions associated with processing of the material at Teesside or in Europe, which could be significant.'</p>   | <p>It is noted that the applicant has committed to the removal of processing at the site by 2027 and it is recommended that NYMNPA ensure that this is secured through an appropriately worded planning condition.</p> <p>It is not the role of the EIA to assess compliance with planning policy. The role of the EIA is to assess the likely environmental effects of the proposed development.</p>   |

| Document reviewed and comment   | Review response and action  |
|---|---|
| <p>'These GHG 'savings' from the original scheme are otherwise based on only an updated national carbon factor for the UK grid supply, and do not reflect a more energy efficient development, and the statements made on this matter may be misleading.'</p>   | <p>An assessment of the carbon associated with the continued operations at the site should be made and reported, however, it is incorrect to state that there will be significant benefits post 2027 when the processing facility is removed as the emissions will simply be relocated to another location, not eliminated.</p> |
| <p><u>ES FI April 2021</u><br/>Table 8.2 Offset greenhouse gas emissions</p>  | <p>This table still references the use of a solar farm for energy generation purposes at the site. If this is still to be progressed and is required to meet policy then this needs to be fully assessed within the ES.</p>   |
| <p><i>Office building</i></p>   |   |
| <p><u>Further response letter 25.08.21</u><br/>Office building.<br/><br/>'This 'benefit' (as described by the applicant) [CPL's commitment to remove existing office building] must be considered in the context of CPL's preceding statement which confirms its intent to pursue the development of a new office building as part of a future planning application.'</p> | <p>Noted, the role of the EIA is to assess the development as proposed. Should further developments be proposed in the future, it will be the role of NYMNPAA to assess the likely effects associated with this. No further action required.</p>  |
| <p><i>Transport</i></p>   |   |
| <p><u>ES FI April 2021</u><br/>Table 5.1 Justification provided regarding the difficulties associated with promoting sustainable modes of transport and reducing single occupancy car trips.<br/><br/>'It is considered reasonable and pragmatic to have a target maintained in the current modal split. This will be reviewed as part of the monitoring process.'</p>    | <p>It is not the role of the EIA to assess compliance with planning policy. The role of the EIA is to assess the likely environmental effects of the proposed development.</p>  |
| <p><u>Further response letter 25.08.21</u><br/><br/>'Contrary to relevant policy, the applicants Travel Plan does not seek to reduce single occupancy car trips beyond their current levels.'</p>   |   |
| <p><u>ES FI April 2021</u><br/>Table 5.1 Paras 8.4.1. and 8.4.2. of the 2019 ES describe the study area and why it was chosen. Further detail is provided on the route and the basis.</p>   | <p>On the basis of the explanation provided and the fact that no objection to the study area has been received from the Highways Authority it is agreed that this represents a suitable study area for the assessment.</p>  |

| Document reviewed and comment   | Review response and action   |
|---|--|
| <p><u>Further response letter 25.08.21</u></p> <p>'The applicant has not demonstrated that the effects of increases in traffic outside of the adopted study area are negligible.'</p>   |  |
| <p><u>Further response letter 25.08.21</u></p> <p>'The application does not consider the potential for the greatest magnitude of change, resulting in a potential underestimation of effects.'</p>  | <p>It is acknowledged that the approach taken does not provide the greatest potential magnitude of change. However, given the fact that the Highways Authority have raised no objection and the magnitude assessed already ensures that the further assessments were triggered, on balance it is agreed that no further amendments are required.</p> |
| <p><u>ES FI April 2021</u></p> <p>Table 5.1 'A change to the baseline flow to reflect seasonal variation or a revision to the future baseline of 2023, will result in a slight increase in the percentage change, but it will have no effect on the conclusions of significance. The GEART assessment, using the 2017 numbers, already show the numbers are above the 30% threshold figure for further assessment; so all the relevant assessments have already been undertaken.'</p> |  |
| <p><u>ES FI April 2021</u></p> <p>Table 5.1 'The comments on sensitivity are acknowledged, however it is noted that an increased sensitivity would not have resulted in a different conclusion to the assessment.'</p>  | <p>It is acknowledged that the approach taken does not correctly apply sensitivity. However, given the sensitivity assessed already ensures that the further assessments were triggered and the conclusions would have been the same, on balance it is agreed that no further amendments are required.</p>   |
| <p><u>Further response letter 25.08.21</u></p> <p>'The applicant has not correctly applied its own assessment parameters for sensitivity and magnitude of effect. This results in a significant underestimation of potential severance, and amenity and delay effects upon local receptors.'</p>  |  |
| <i>Alternatives</i>   |  |
| <p><u>ES FI April 2021</u></p> <p>Table 5.1 Explanation regarding approach taken to alternatives</p>  | Noted and agreed.  |
| <i>Night-time assessment</i>  |  |
| <p><u>ES FI April 2021</u></p> <p>Table 5.1 Winter photography query</p>  | <p>The justification regarding the lighting effects on the night time photos provided is accepted and agreed. No further actions required.</p>   |

| Document reviewed and comment   | Review response and action  |
|---|---|
| <u>ES FI April 2021</u><br>Table 5.1 Visual representation guidance, use of older guidance  | Justification on the use of the guidance for visual representation is accepted and agreed. No further actions required.   |
| <u>ES FI April 2021</u><br>Table 5.1 Night time lighting mitigation strategies  | The mitigation measures identified are acknowledged, NYMNPA need to ensure that the lighting management plan is secured via a condition to any future planning consent, this should also allow for regular reviews of the lighting on site over the planning permission period to allow further improvements to be made if they arise through changing circumstances in the future. |
| <i>Cumulative effects</i>   |   |
| <u>ES FI April 2021</u><br>No changes proposed to existing cumulative effects assessment.   | Response noted and agreed, no further action required.  |
| <i>Interaction between subjects</i>   |   |
| <u>ES FI April 2021</u><br>Interaction between subjects assessment is provided, covering <ul style="list-style-type: none"> <li>- Noise, Air Quality and / or light on ecological receptors; and,</li> <li>- Noise, Dust and Visual Impacts on human receptors</li> </ul> | The addition of an interaction section is welcomed. This addresses the previously identified concerns and regulatory requirements and no further action is required.  |
| <i>Mitigation</i>   |   |
| <u>ES FI April 2021</u><br>A mitigation schedule and delivery mechanisms is provided.   | The addition of an mitigation section is welcomed. This addresses the previously identified concerns and no further action is required. This is a useful tool for NYMNPA to use to ensure that all specified mitigation is covered through planning conditions and S106 agreement.  |

*Case law R(Finch) v Surrey County Council<sup>1</sup>*

- 3.1.3 Reference is made to the 2020 EIA case law judgement of R (Finch) v Surrey County Council. It was found that case law confirmed that EIA must address the environmental effects, both direct and indirect, of the development for which planning permission was sought, but there was no requirement to assess matters which were not environmental effects of the development or project.
- 3.1.4 The judgement stated that the obligation does not include the environmental effects of consumers using (in locations which are unknown and unrelated to the development site) an end product which will be made in a separate facility from materials to be supplied by the development being assessed. It was therefore concluded that the assessment of GHG emissions from the future combustion of refined oil products said to emanate from the development site was, as a matter of law, incapable of falling within the scope of the EIA required by the 2017 Regulations for the planning application.
- 3.1.5 The judgement, whilst in this case relating to crude oil, also stated that it would apply to the winning of other minerals for subsequent use in the generation of energy or the extraction of minerals or the production of raw materials for use in industrial processes, leading eventually to the consumption or use of an end product.

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<sup>1</sup> <https://www.judiciary.uk/wp-content/uploads/2020/12/R-Finch-v-Surrey-County-Council-Judgment.pdf>

## 4.0 Noise and Vibration technical review

### Introduction

4.1.1 This noise and vibration review has considered the following documentation in order to provide advice as to the acceptability of the application in relation to this discipline:

- Wood ES Noise and Vibration Chapter March 2021.
- Letter from Wood to Rob Smith, Senior Minerals Planner, North York Moors National Park Authority - NYM/2019/0764/MEIA Boulby Mine Planning Application, 8<sup>th</sup> April 2021.
- Accompanying the above letter - Boulby Mine Planning Application, Environmental Statement: Further Information April 2021.
- Wood, Technical note: Boulby Mine: additional mitigation relating to operational impacts, June 2021.
- Extract from representations from CPRE North Yorkshire (August 2021).
- Letter from Lichfields to Mark Hill, North York Moors National Park Authority on behalf of Anglo American Woodsmith Ltd, 25<sup>th</sup> August 2021.

4.1.2 Notwithstanding all the above documents, this review focuses on the ES Noise and Vibration chapter March 2021, the Boulby Mine Planning Application, Environmental Statement: Further Information April 2021 and the Technical note: Boulby Mine: additional mitigation relating to operational impacts, June 2021. The review has considered the following aspects:

- Policy context.
- Compliance with national guidance for minerals extraction.
- Compliance with the appropriate assessment standard (this assumes all extraction is underground and hence the surface processing etc. is primarily assessed as an industrial development) – BS 4142:2014+A1:2019. The ES chapter refers to BS 4142:2014 but there was a 2019 update although this is not substantially different to the 2014 version.
- From the above, the assessment criteria adopted and more specifically consideration of criteria adopted to determine the significance of effects.
- Application of the assessment methodology and criteria.
- Review of the assessment outcome.
- Overview of the ES chapter/further information in terms of significant failings or areas of weakness.
- Consideration of appropriate conditions.

### Review of documents

#### Wood ES Noise and Vibration Chapter March 2021

4.1.3 The chapter was updated in March 2021 from a previous version following the receipt of additional information regarding decommissioned plant and implementation of new noise control measures. There is no construction phase assessment as the mine and associated plant exist and the application is for a lifetime extension.

- 4.1.4 Section 6.2 on Policy Context, Legislative Requirements and Guidance, provides the appropriate context for the application. As mentioned above, reference is made to BS 4142:2014 but there was a 2019 update although this is not substantially different to the 2014 version and the minor updates do not affect the methodology or assessment criteria. There is no mention of guidance or standards in relation to vibration.
- 4.1.5 Section 6.3 on Methodology and Approach, Data Gathering Methodology, Sound Monitoring Methodology, indicates that baseline sound monitoring surveys and on-site source measurements were completed by Wood at various locations in and around the Site between the 31<sup>st</sup> July and 24<sup>th</sup> August 2017. This included a period of operational shutdown representative of baseline conditions without the mine. The text indicates that the measurements were taken within the last three years which they just were at the time the chapter was published but they are now beyond three years old. This would generally be borderline acceptable but assuming the statement that no major developments are known in the area which would significantly change the acoustic environment is correct, the noise survey data is probably just acceptable. Other aspects of the noise survey are acceptable and reflect best practice.
- 4.1.6 The approach described to Significance Evaluation Methodology lacks the standard approach to EIA. It fails to consider impact magnitude in the conventional way; it fails to consider the sensitivity of receptors; and it fails to report significance using a conventional EIA Impact Significance Matrix as the example provided below:

**Table 4.1: Example Impact Significance Matrix**

|                  | <b>Sensitivity</b>                     |  |  |
|------------------|--|--|--|
| <b>Magnitude</b> | <b>High</b>                            | <b>Moderate</b>                        | <b>Low</b>                             |
| Major            | Major<br>Adverse/Beneficial            | Major – Moderate<br>Adverse/Beneficial | Moderate – Minor<br>Adverse/Beneficial |
| Moderate         | Major – Moderate<br>Adverse/Beneficial | Moderate – Minor<br>Adverse/Beneficial | Minor<br>Adverse/Beneficial            |
| Minor            | Moderate – Minor<br>Adverse/Beneficial | Minor<br>Adverse/Beneficial            | Minor - Negligible                     |
| Negligible       | Negligible                             | Negligible                             | Negligible                             |

- 4.1.7 Instead of adopting the above approach, a simpler approach has been adopted whereby the effects are deemed significant or not.



- 4.1.8 The Assessment Criteria section appears to appropriately reflect the application of the correct criteria from the relevant standards and guidance for Operational Sound – Fixed and Mobile Plant: BS 4142:2014 and Minerals Planning Policy Guidance. However, whilst there is discussion on LOAEL and SOAEL values, there is no real suggestion as to what would be deemed acceptable. Generally, for an industrial process, the Rating Level is usually considered high if it exceeds the background sound level by more than +5 dB day or night and 55 dB  $L_{Aeq}$  operational noise level during the day and 42 dB  $L_{Aeq}$  at night with the latter to prevent sleep disturbance.
- 4.1.9 For Operational Road Traffic, exceedance of the threshold for the provision of secondary glazing under the Noise Insulation Regulations (NIR) 1975, as amended 1988, and the WHO Environmental Noise and Night Noise Guidelines values have been used. These are all fixed levels with the NIR level being 68 dB  $L_{A10, 18hr}$  which is a very high level for a relatively rural area. Whilst, use of these parameters is not unusual, they have been used in conjunction with a noise change methodology where significance starts with a greater than 3 dB change in the Long Term which would apply to the mine which is correct. However, as with BS 4142:2014, reference has been made to the DMRB 2011. This was replaced by LA111 in November 2019. However, the methodology and criteria are similar.
- 4.1.10 With regard to Section 6.4 Baseline, noise levels from measurements over the four weeks have been reported week by week with the first week being the week without any plant activity. Table 6.16 reports the noise levels used for the assessment. Whilst not stated, these appear to be the noise levels from the week without any plant activity. The lowest value between the mean and the mode has been adopted which is a conservative approach.
- 4.1.11 Section 6.6 provides the Predicted Effects: Operational and the following observations are made:

| <b>Comment</b>  | <b>Response / action</b>   |
|---|----------------------------|
| Day and night have been appropriately split.  | No further action required |
| The background sound levels used are appropriate and conservative.  | No further action required |
| The application of noise penalties appears correct, i.e. nothing during the day but a tonal penalty has been applied at night due to the audibility of the sound at night at receptors. | No further action required |
| There is reference to ongoing noise control measures being implemented and the assessment takes these into account although qualitatively not quantitatively.                           | No further action required |

| Comment  | Response / action  |
|--|--|
| <p>BS 4142 impacts during the day are described as Not Significant. This outcome would appear to be justified but only if the further measures referenced are implemented, i.e. the acoustic enclosure for the static compensator as particularly affecting LT4.</p>   | <p>No further action required</p>  |
| <p>The initial BS 4142 assessment at night shows the potential for Adverse Impact at LT1 and LT3 and Significant Impact at LT2 and LT4 although consideration of context is deemed to be required. Consideration of the context indicates that it is important to consider the existing use of the site and the fact that the plant is already operational and part of the acoustic character of the area. On this basis, the conclusion is that, if the application is successful, the acoustic character of the areas will not change.</p> | <p>This may be correct but the comparison should be between the situation without the plant in place to the situation with the plant in place. If this comparison is made, then the acoustic character of the area is very different. Furthermore, we have a situation at night where complaints are occurring and this indicates that noise levels at night are unacceptable whether noise from the mine is accepted as forming the acoustic character of the area or not.</p>  |
| <p>Further consideration of the context is made for the daytime and night-time through a comparison of residual levels and specific noise levels, i.e. those without a character correction applied.</p>   | <p>This still indicates a problem at night-time even with the potential reduction in fan noise tonality and the removal of the character corrections. Even if the +4 dB character correction was removed at LT4 assuming no plant within the site had any acoustic character, then the Rating Level would still be +7 dB above the background. Furthermore, whilst night-time noise levels are all below the 42 dB <math>L_{Aeq}</math> night-time limit from the Minerals Planning Guidance, they are still well above background sound levels.</p> |
| <p>Reliance is then made upon further mitigation to the fan responsible for the tonality at night and it is stated that if the fan is either not used at night or the mitigation is in place, then the outcomes at LT2 and LT4 would reduce from Significant Adverse to Adverse. The final conclusion is that, considering the details on the noise control measures that will be implemented, the final outcome for night-time is Not Significant.</p>  | <p>However, there is uncertainty here as this conclusion is dependent upon the additional mitigation implemented and the effectiveness of that mitigation.</p>   |

Boulby Mine Planning Application, Environmental Statement: Further Information April 2021

- 4.1.12 This report was produced for the purpose of providing further information to the ES which was submitted in support of the planning application to extend the operational life of Boulby Mine. The report was submitted in response to the request for further information made by North York Moors National Park Authority (NYMNPA) under Regulation 25 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (EIA Regulations), and also in response to representation made on the planning application by third parties. The report provides inter alia, an assessment of the environmental effects of deconstruction works, including noise, and an updated noise assessment.
- 4.1.13 For the deconstruction works (Section 2), these will be phased and should be controllable by best practice and monitoring. It would be expected that a CEMP, including noise, would be produced by the deconstruction contractor and that the control measures would be adhered to during this phase. Assuming this is well controlled, no significant effects should arise. Notwithstanding this, there is no quantitative assessment of the deconstruction works as should be included in any EIA.
- 4.1.14 Further information on noise is provided in Section 3. It is stated that, following representations made on the original noise chapter and additional information that has been provided by CPL as a result of their investigations into noise arising on site, a revised noise chapter (although it is not specifically clear which chapter/report this is) was prepared and was submitted alongside this Further Information report. The revised chapter incorporates a revised noise assessment, which removes certain plant which has been decommissioned since the original works and takes into account the tonality of noise arising from System 7 (located within the main plant building). Work undertaken on site by CPL in conjunction with the NYMNPA, Redcar and Cleveland Borough Council (R&C BC) and local residents identified System 7 as the source of noise which has given rise to complaints from the local residents. While this noise was considered to be below statutory noise limits in terms of its level, the tone of the noise appears to be the cause of the complaints made at the time.
- 4.1.15 CPL had commissioned acoustic shielding works to System 7 of which the first phase (silencer) was completed in July 2020 and the second phase (cowling) was due to be implemented in April 2021. Noise monitoring was to take place before and after the implementation to confirm the effectiveness of the works. Additional noise mitigation was also being implemented at a static compensator in the south west corner of the Mine Site which has been identified as one of the louder sources of noise on site. With the revised assessment work and the proposed mitigation, the stated outcome was that there were no significant effects from the Mine Site in terms of noise although this is not quantified at all.
- 4.1.16 Section 7 reports on Interaction Between Subjects and includes a summary of receptors and effects. This doesn't provide any additional information but it does indicate that under the BS 4142:2014 assessment, significant effects are still predicted for the night-time at Ridge Farm.

Technical note: Boulby Mine: additional mitigation relating to operational impacts, June 2021

- 4.1.17 From the above, CPL had been developing a series of mitigation measures to provide further control over noise and dust arising to reduce these further. The note describes what has been done and also provides commitments regarding noise management. The note reports that Neighbours to the Mine Site have raised an issue with a 'droning' type sound coming from the Mine Site and the tone (or frequency) of this is giving rise to some disturbance even though the volume of the noise is low. CPL had investigated the source of this noise by shutting down all of the surface operations and re-starting equipment one by one. This activity came at significant cost (over £100,000) but was successful in identifying the 'System 7' fan as the source of the noise. The System 7 fan is part of the main plant building and is part of a system that filters dust out of the internal building space. This system is one which therefore has to operate in order to maintain appropriate working conditions within the main plant building. In April 2021, additional works were undertaken to install an internal cowling to the System 7 fan housing. These works were completed under guidance of a specialist noise and vibration control contractor. Monitoring is ongoing to confirm the effectiveness of this mitigation, however initial discussions with local residents indicate that this specific noise problem has reduced since it was implemented. However, there is no overall quantification of the benefits associated with this mitigation.
- 4.1.18 The note also indicates problems with noise monitoring as standard monitoring can provide automatic alerts based on level exceedance but not tonality. It is stated that CPL does not have the capability to carry out this monitoring and external noise specialist would be required. Consequently, it is stated that CPL staff are booked on training courses in the Autumn of 2021. This seems entirely unsatisfactory as, given the scale of the operation, use of external consultants would not be prohibitively expensive and sending staff on a short training course does not necessarily make them competent to carry out measurements and assessments.
- 4.1.19 Section 5 states that “the planning application details that noise, dust and light management plans can be provided, via conditions, to detail the monitoring works being undertaking, what results are found and what mitigation is proposed or has been implemented where this is required. These details can then be agreed between CPL and the NPA so both parties have confirmation and assurance of what is needed on site going forward. These management plans can then be reviewed on a periodic basis during the life of the planning permission to ensure they are kept up to date”. However, there is no certainty in this statement and provision of these should be committed to by the developer and also be subject of conditions.

Extract from representations from CPRE North Yorkshire (August 2021)

- 4.1.20 The CPRE states that “the tables of section 6 of the additional information show that the recorded operation noise levels are higher at all locations than the absolute cap of 42 LAeq DBA as set out in the Minerals PPG at night time. The PPG is very clear that this level is an absolute cap and that night time noise levels should be reduced to a minimum – without placing onerous burden on the operator (usually financial)”. This is assumed to relate to the April 2021 ES chapter. Table 6.19 relates to the night-time period and the following points need clarification:

- The “recorded operation noise levels”, although it is not clear which row of Table 6.19 the CPRE is referring to, are not recorded but predicted assuming this relates to the correct row which is the Specific Sound Level row. These levels are predicted levels from modelling from the mine alone and are all below the 42 dB  $L_{Aeq}$  night-time levels from the Minerals Planning Guidance.
- The higher levels, the Residual Sound Levels, are the baseline  $L_{Aeq}$  levels and are all higher than the Specific Sound Levels except at LT4 - Ridge Farm, where the levels are the same.
- On this basis, sleep disturbance shouldn't occur as the levels comply with Minerals Planning Guidance.
- CPRE also references the WHO's “Night Noise Guidelines for Europe” in relation to the 42 dB  $L_{Aeq}$  level and lower levels. These are generally considered aspirational and a higher interim night target of 55 dB  $L_{night, outside}$  is recommended if the lower levels are not achievable in the short-term. Pragmatically, the lower levels are routinely exceeded across the UK other than very rural locations.

Letter from Lichfields to Mark Hill, North York Moors National Park Authority on behalf of Anglo American Woodsmith Ltd, 25<sup>th</sup> August 2021

4.1.21 This letter addresses an number of issues in relation to the application. For noise, the following points are made:

| Comment  | Response / Action  |
|--|--|
| No account of receptor sensitivity has been provided by the assessment, even though the importance of this factor is discussed in the text.  | This comment is agreed and the point made above.   |
| There is no assessment of the deconstruction works in accordance with BS 5228, even though the use of high reach demolition equipment is confirmed.  | This comment is agreed and the point made above.   |
| There is no reassurance that the weather effects have been appropriately taken into account during the monitoring survey, for the period when the weather monitor was offline. This lends uncertainty to the entire baseline dataset.  | The fourth bullet point of paragraph 6.3.3 under Sound Monitoring Methodology, describes the meteorological conditions over the duration of the survey notwithstanding the absence of ~4 days of data. Periods of inappropriate data have been excluded from the data set. This is considered appropriate.   |
| There are no details and clarification is required relating to how the future layout of the site will affect noise emissions, including: <ul style="list-style-type: none"> <li>• Any new plant to be installed;</li> <li>• Where plant is to be moved; or</li> <li>• Where the site layout is to be changed.</li> </ul> | The ES noise chapter and other related subsequent assessments/reports do not refer to any changes to plant or buildings or site layout except during the deconstruction phase. This is with the exception of the noise mitigation referred to which will be provided for certain items of plant. If other changes are planned then these would require assessment. |

|   |   |
|---|---|
| <p>We disagree that context has been correctly taken into account, many of the noisier operations are to be removed which may lead to acoustic features of remaining or new plant becoming more apparent; therefore the contextual argument comparing the rating level to the residual level rather than the background level is not appropriate.</p> | <p>The context has been taken into account in a number of ways:</p> <ul style="list-style-type: none"> <li>• The site is already operational and the planning permission sought is for the continuation of operations, so the site is already part of the acoustic character of the area. This is a matter of fact notwithstanding the effects and this has been discussed at length above in the main ES chapter review.</li> <li>• The residual sound levels are compared with the specific sound levels and these are generally higher by a substantial margin except at LT4.</li> </ul> |
| <p>Various points are summarised in the table at the end of the letter - Annex 1 – ES Additional Information (July 2021) Technical Review but these have mostly been addressed above.</p>   | <p>No further action required.</p>  |

**Overview of the ES Chapter and More Recent Documents**

4.1.22 The review provided above considers the assessments that have been undertaken for the planning application for the lifetime extension for the working of Boulby Mine. Appropriate assessment methods and criteria have been discussed and these are generally appropriate although reference is made to two key assessment method documents which have been superseded by more recent versions. However, the following points are of concern:

- The approach described to Significance Evaluation Methodology lacks the standard approach to EIA. It fails to consider impact magnitude in the conventional way; it fails to consider the sensitivity of receptors; and it fails to report significance using a conventional EIA Impact Significance Matrix. Notwithstanding this, had a more conventional methodology been adopted, the outcome would have been similar.
- As above, reference is made to two key assessment method documents which have been superseded by more recent versions. Fortunately, the changes are minor and don't affect the assessment but it raises a question as to the competence of the assessment consultant and awareness of updated standards etc.
- It states in the ES chapter that consideration of the context indicates that it is important to consider the existing use of the site and the fact that the plant is already operational and part of the acoustic character of the area. On this basis, the conclusion is that, if the application is successful, the acoustic character of the areas will not change. This may be correct but the comparison should be between the situation without the plant in place to the situation with the plant in place. If this comparison is made, then the acoustic character of the area is very different. Furthermore, we have a situation at night where complaints are occurring and this indicates that noise levels at night are unacceptable whether noise from the mine is accepted as forming the acoustic character of the area or not. These complaints would indicate that affected residents are not accepting that the mine forms part of the acoustic environment. The corollary to this is that the conclusion that night-time noise effects are Not Significant is wrong as they would appear to be so.

- There is considerable uncertainty across all documents as to the night-time noise effects due to the effectiveness of proposed mitigation to various items of plant. Consequently, there is a lack of quantification of effects and their likely significance which is contrary to the EIA process requirements. Until this aspect is resolved, and there is certainty about night-time noise effects, the noise assessment cannot be relied upon within the decision making process.
- There is no quantitative assessment of deconstruction works. Whilst it is accepted that full information on plant and activities would not become available until a contractor is appointed, an assessment is still required based upon likely plant and activities. Again, consequently, there is a lack of quantification of effects and their likely significance which is contrary to the EIA process requirements.
- The developer needs to commit to provide a noise and vibration management plan for the operation and, subsequently, the deconstruction of the mine. The former should have been provided as part of the planning application; the latter should be required through an appropriate condition.
- Proposals for operational noise monitoring are vague and imprecise and rely upon mine staff being appropriately trained; this does not necessarily provide the competence required without further details. This is not considered acceptable and contrary to the EIA process requirements where monitoring is a requirement. Full proposals for monitoring, reporting and action should form part of the noise management plan.
- There is only a vague single mention of conditions and none are proposed as is now considered best practice. These are considered below.

4.1.23 Based upon the above points, there are various areas of the assessments undertaken which fail to provide the required certainty that the continuation of the operation of the mine is acceptable particularly for the night-time period. Until this uncertainty is resolved, it is recommended that NYMNP assume that significant adverse effects are likely for night-time noise. Any approval should also be subject to appropriate conditions and possible conditions are suggested below.

### **Proposed Conditions**

4.1.24 Ideally, conditions would have been proposed covering:

- noise from the operation of the mine; and
- noise and vibration from deconstruction works; or
- a Construction Noise and Vibration Management Plan which would contain this information.

4.1.25 For noise from operation of the mine, given that there is no surface mineral extraction, it is considered that a BS 4142 condition would be most appropriate to control noise from what is essentially an industrial operation. The following is proposed:

*“The rating level  $L_{Ar,Tr}$  of noise emitted from the site shall not exceed the representative background sound level  $L_{A90,Tr}$  at any residential receptor by more than 5 dB during the daytime period of 07:00 and 23:00 hrs or the night-time period between 23:00 and 07:00 hrs. The reference time period for the  $L_{Ar,Tr}$  is 1 hr during the day and 15 mins at night. Any measurements or assessments should be undertaken following guidance in the version of BS 4142 Methods for rating and assessing industrial and commercial sound current at the time and carried out by a competent individual/s.*

*Within one month of consent being granted for the continued operation of the mine, and the implementation of all proposed mitigation, noise monitoring and reporting shall be carried out to demonstrate compliance with the above requirement. Should the monitoring indicate exceedance of the requirement, then the local planning authority shall be informed of proposals for mitigation within one month of the monitoring. The proposed mitigation shall be implemented within one month from the time the local planning authority approve the proposed mitigation and the developer will then demonstrate compliance within one month of the implementation of the mitigation.”*

- 4.1.26 For the general control of noise from the mine, the following condition is proposed:

*“Within three months of consent being granted for the continued operation of the mine, the developer shall submit to the satisfaction of the local planning authority, a noise and vibration management plan. This will describe how emissions from the site will be controlled, monitored and reported over the remaining lifetime of the mine”.*

- 1.1.23 For the control of noise and vibration from the deconstruction of the mine, the following condition is proposed (this information could also be included in a Deconstruction Environmental Management Plan which would contain management measures for other environmental aspects as well):

*“At least three months prior to the commencement of deconstruction activities at the site, the developer shall submit to the satisfaction of the local planning authority, a deconstruction noise and vibration management plan. This will describe how the site will be deconstructed, the programme for the deconstruction works, how Best Practicable Means will be implemented and the monitoring and reporting that will be provided. The plan should also provide predictions of effects at properties adjacent to the site. Monitoring and predictions shall be carried out in accordance in the versions of BS 5228-1 Code of practice for noise and vibration control on construction and open sites – Noise and BS 5228-2 Code of practice for noise and vibration control on construction and open sites – Vibration current at the time and carried out by a competent individual/s.”*



## 5.0 Review Summary and Conclusion

### *General review*

- 5.1.1 Following previous reviews the additional information provided by the applicant has gone some way to address the identified concerns. For many of these areas, it is considered that they no longer represent an issue in regard to the EIA, or the evidence presented demonstrates, that whilst the approach does not always follow best practice, the outcomes and conclusions from the assessment would not differ if the preferred approach was adopted, and therefore they still represent a worst case assessment.
- 5.1.2 There remain a number of outstanding concerns that it is considered require further detail / clarification prior to any grant of consent. These are:
- Lack of certainty remains regarding the proposed reduction in height from buildings and structures, leading to concern that the worst case scenario has not been assessed;
  - The qualitative, high-level nature of the deconstruction assessment leads to uncertainty in the conclusions that have been drawn and mitigation proposed as part of the assessment; and,
  - Extent to which the benefits in regard to carbon reduction are demonstrated when whilst emissions at the site are being reduced through the removal of the processing, emissions will still be generated through processing off-site.

### *Noise review*

- 5.1.3 With regard to noise, the document review has raised some significant concerns in relation to:
- The approach to the EIA;
  - The BS 4142 context discussion, based on the assertion that if the application is allowed, the acoustic character of the area will not change, and hence this is acceptable, which is flawed given that noise complaints associated with the mine operations are occurring;
  - There is significant uncertainty regarding night-time noise effects given the reliance upon mitigation yet to be implemented;
  - There is no quantitative assessment of deconstruction works;
  - Proposals for future noise monitoring are vague; and,
  - No conditions are proposed.

### **Conclusion**

- 5.1.4 Having reviewed all of the information available it can be concluded that in a number of areas, the information and approach does not represent best practice in EIA terms, however, on balance, it is considered that the provision of further information at this stage would not alter the conclusions drawn or the mitigation specified within the ES.

- 5.1.5 With regard to noise in particular, there remains a degree of uncertainty in respect of the night-time noise levels and the likely success of the mitigation that is currently being implemented. The request for further information at this stage is unlikely to provide any additional level of certainty to this issue. In the light of this uncertainty, and the absence of monitoring information and to ensure that a worst case scenario has been considered, it is recommended that NYMNPA assume that the mine will give rise to significant adverse night-time noise effects. On this basis, should NYMNPA choose to grant consent as part of the planning balance determination, it is recommended that appropriately worded planning conditions are applied to a consent. These conditions will need to ensure ongoing monitoring at the source and the receptor and that appropriate mitigation is applied where significant effects are likely, unless the applicant can demonstrate that the mitigation measures address the night-time noise issue.