Noise Assessment Methodology

Title:	Padeswood Permitting Methodology		
Client:	Heidelberg Materials UK		
Reference:	2060956-RSKA-TN-001-(01)		
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1 Introduction

It is understood that a noise impact assessment is required in relation to the Proposed Development in support of the Environmental Permit Application for submission to Natural Resources Wales (NRW). The requirement for the assessment is due to the introduction of a range of noise sources that will operate on a 24-hour basis, generally under steady state conditions as a result of the Proposed Development.

The noise impact assessment would look to quantify noise impacts associated with the existing and proposed plant installations, with the consideration of soundscape and a revised BAT assessment. The assessment will follow on from the rest of the Environmental Permit Variation application as further work is required to ensure the NRW requirements for noise impact assessments are met.

This document outlines the work that has been undertaken to date and planned works to be completed.

2 Works Undertaken

A noise impact assessment has been undertaken for the development and submitted as part of a wider EIA. This is for the purpose of demonstrating that the proposed development in isolation is suitable in terms of the relevant planning policies.

A baseline noise survey was undertaken at locations representative of noise sensitive receptors to establish the pre-development acoustic environment. The noise survey was undertaken between 7 September and 15 September 2023.

Input data for the proposed equipment included the location, dimensions and indicative sound power levels associated with noise generating equipment item. Equipment data also included the typical operating duty for day and night-time periods, operational requirements and number of each equipment operating simultaneously. The RSK team worked alongside the design team to derive the operating requirements for all proposed equipment. The subsequent information has been adopted in a computational noise model as part of an initial noise prediction exercise.

The predicted noise emissions at surrounding sensitive receptors were calculated using a computational noise prediction model. Modelling has been undertaken using nationally recognised modelling software (SoundPLAN) which implements widely accepted modelling algorithms. The modelling software calculates industrial noise in accordance with the methodology set out in ISO 9613-2.

The outputs from the initial modelling were utilised to assess rated sound levels against the prevailing background sound level at the closest residential receptors during the daytime night-time periods. Consideration to both time periods have been considered for determination of impacts as some of the equipment operating duties are contingent on the ambient temperature.

The planning assessment provides high-level mitigation requirements, which although were developed in collaboration with the design team, the design has not yet advanced to a point where specific plant and mitigation measures are confirmed.

The outcome of the noise impact assessment for planning concluded that the scheme was unlikely to give rise to significant adverse impacts on surrounding receptors.

3 Works to be Completed

To ensure the assessment submitted as part of the Environmental Permit Variation meets with the requirements in the NRW guidance document *Noise and vibration management: environmental permits*, the following works will be undertaken:

- A review of the existing noise impact assessments will be undertaken. Including a review of any baseline information and noise source input data for the existing site. Where relevant this data will be utilised as part of assessment.
- Once a review of existing data and the consultation with NRW has been undertaken, additional noise monitoring will be completed, where required, to establish:
    - Noise emissions from the existing on-site equipment; and
    - To obtain baseline noise data in absence of the permitted site.

  A consultation with NRW would be sought to agree on the use of existing measurement data (or whether gaps are identified). Where further baseline monitoring is required, the monitoring strategy would be agreed prior to the commencement of works. Additionally, the assessment strategy would be agreed during this consultation.
- Further computational noise modelling will be undertaken with the output utilised as part of the noise impact assessment, suitable for Environmental Permitting.
- Assessment of the site following the methodology in *BS 4142:2014+A1:2019* and the NRW guidance document *Method implementation document (MID) for BS 4142*.
- Revised BAT assessment for the permitted site.

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