

Q4.22 - APPENDIX 1 - NOISE INSULATION PROTOCOL

1.1 INTRODUCTION

As part of the design of the White Rose Carbon Capture and Storage (CCS) Project (*The Project*) the noise levels have been considered during design, and noise mitigation has been considered which is integral to the design. However, the ES Volume 2 Chapter B - Noise and Vibration Technical Report (*The Technical Report*) identified that at one location (Foreman's Cottage) BS 8233 night-time criterion are predicted to exceed the noise criterion by 2 dB (A) based on windows being open at times for ventilation. In order to address this issue Capture Power Limited (CPL) is committed to providing upgraded sound insulation to buildings that are affected in this way so that conditions inside the buildings are appropriately mitigated.

This document describes the process which will be undertaken following acceptance of the DCO application to address noise insulation. It also sets out the noise levels at which noise insulation will be offered and a preliminary assessment of the location and number of properties that will be eligible. The specification of the noise insulation package, including upgraded glazing and acoustic ventilation, that will be provided is also described.

1.2 PROCESS

Once the DCO has been granted and the EPC contract for the project awarded, the properties that would be eligible for noise insulation would be reassessed, based on the latest design information (post FEED) and any revised noise predictions. Those properties that were likely to be eligible based on the highest noise level at any façade which is likely to contain a window or door to a night-time sensitive room (i.e. a bedroom) would then be surveyed to establish:

- if they contain rooms that are noise sensitive at night that are subject to noise levels above the threshold described in *Section 1.3*;
- if any doors opened onto such rooms would be exposed to noise levels above the threshold and would need to be noise insulated; and
- what the specification would need to be for the noise insulation package (as discussed in *Section 1.5*).

For Foreman's Cottage (owned by Drax) the process would be to confirm the extent and type of noise insulation package that would be required and then to install the package in advance of the project becoming fully operational (i.e. on completion of commissioning). In the unlikely event that any other properties become eligible that are owned by third parties, they will be made a written offer of a noise insulation package. The timescales for acceptance of the offer will be set out in the offer, and on acceptance of the offer noise insulation will be installed within a reasonable period.

1.3 NOISE LEVELS AT WHICH INSULATION WILL BE REQUIRED

The thresholds at which mitigation will be provided are discussed in *The Technical Report* and are based on the World Health Organisation (WHO) guidance that has in turn been used in recent guidance in BS 8233. This British Standard gives guidelines for avoiding disturbance at night which are 30 dB $L_{Aeq, 8 \text{ hr}}$ at night between 2300 and 0700 inside residential buildings. The external noise levels that are equivalent to this value are typically 10 to 15 dB higher so that a reasonable benchmark would vary between 40 and 45 dB $L_{Aeq, 8 \text{ hr}}$. Assuming partially open windows it would be likely that noise impacts would not occur until external noise levels were towards the higher end of the range above, and therefore noise insulation is to be provided above noise levels of 45 dB $L_{Aeq, 8 \text{ hr}}$. (These levels would be the equivalent free-field noise levels at façade of the building.)

1.4 PRELIMINARY ASSESSMENT OF THE PROPERTIES THAT WILL BE ELIGIBLE

Based on the current predicted noise levels, the noise levels only exceed 45 dB $L_{Aeq, 8 \text{ hr}}$ by a small amount at one property which is owned by Drax (Foreman's Cottage). Therefore, the extent of the offers of noise insulation would be limited to this one property.

Since the EPC contractor will be required to achieve at least the noise levels that were predicted in the ES, it is unlikely that noise insulation will be required at other properties. Refined noise predictions will be available post FEED and award of the EPC contract (once guaranteed equipment noise vendor information is available). If these final predictions show that noise levels at Foreman's Cottage are below 45 dB $L_{Aeq, 8 \text{ hr}}$ this property would not be eligible for noise insulation.

It is normal to consider the amount by which the noise from a new project contributes to the existing ambient noise when offering noise insulation, and to not offer noise insulation if very small changes are likely. In this case, at times the existing noise is low at Foreman's Cottage, and on this basis no such criterion is considered necessary.

1.5 NOISE INSULATION PACKAGE SPECIFICATION

The standard offer for noise insulation would be a standard glazing package, with ventilation system which would allow the windows to be kept closed. External doors which lead directly into bedrooms would also need to be considered. The insulation that is offered would be based on the standard package which is used for railways and roads (see attached regulations ⁽¹⁾ Schedule 1 in *Annex A* which describes what work will be done).

Whilst the purpose of the noise insulation in this case is to mitigate industrial noise rather than railway noise, there are no equivalent regulations for industrial noise and the works in *Annex A* are effectively the best that can be offered for an existing building, and considered the most effective in reducing levels inside the building to the lowest practicable level.

(1) The Noise Insulation (Railways and Other Guided Transport Systems) Regulations 1996

The offer is limited to glazing and ventilation for bedrooms, and remedial works to walls/roofs etc is not part of the proposed offer. This approach is consistent with other major current projects such as HS2.