Submission by NRUG in response to "Applicant's Responses to Written Representations and other parties responses to ExQ1, Document 8.7", 20 November 2018.

On page 18 of the response, the Applicant refers to consistency with the WHO guidelines for Community Noise.

Attached to this response is a copy of page 6 of the Executive Summary of the WHO Environmental Noise Guidelines for the European Region, 2018. Railway noise is a specific topic, and noise should be below 44dB, not the 45 limit used by the Applicant. Contrary to the position set out by the Applicant, a higher limit than that contained in the WHO guidelines has been chosen. If the Applicant considers this to be a rail facility, then it must be assessed as one, not as some other form of development allowed higher noise limits.

For clarity, noise is measured on a logarithmic scale, such that each 3dB increase represents a doubling of the noise level, 1dB representing an increase of 36%. 1 dB is not deminimis, it is discernible.

On page 20 of the response, the Applicant refers to BS 4142:2014. A copy of page 1 of this British Standard is also attached. Note under Para 1.3 that the determination of nuisance is outside the scope of this British Standard, and that railways systems are specifically excluded. The Applicant's response quotes BS4142 in the context of "as perceived by the receptor", which is a determination of nuisance outside the scope of the BS, on a topic, rail noise, which is specifically excluded.

The last paragraph of the attachment is also pertinent, given that the Applicant has relied, incorrectly, on BS4142 both to derive and assess indoor noise.

Paragraph A6.3, page 39 of BS4142, quoted below, is informative:

"In addition to the rating/background sound level comparison shown in Table A.8, the primary concern is the potential for disturbance of residents who could be sleeping with open bedroom windows. The change in sound level when the source starts and stops during the night is noticeable indoors and, together with the slight tonality, can attract a listener's attention in the bedroom. It is appropriate to apply a rating penalty of 5dB."

This provides a good description (the source starts and stops during the night) of the reasoning why a 5dB penalty is appropriate, confirming that 3dB is not conservative.

Our members are perplexed by the following statement on page 19 of the Applicant's responses:

"Work is being carried out at a European level to reduce noise from freight trains and it is likely that by 2043 quieter rolling stock will be in use compared to that assumed for this assessment. Therefore, the potential significant adverse effect would be mitigated by the use of quieter rolling stock."

Potential significant adverse effects are admitted by the Applicant, otherwise they would not have used the words "the potential significant adverse effect" in the response. That they are unmitigated until 2043, and only then "it is likely", is a surely a fatal flaw. 20 years or more of unmitigated significant effects is not acceptable.

The obvious conclusion is that the noise assessment is sufficiently flawed to prevent its use in a secure manner to determine this proposal.

Page 6 WHO Noise Guidelines:

Railway noise

Recommendation	Strength
For average noise exposure, the GDG strongly recommends reducing noise levels produced by railway traffic below **54 dB** L_{den}, as railway noise above this level is associated with adverse health effects.	Strong
For night noise exposure, the GDG strongly recommends reducing noise levels produced by railway traffic during night time below **44 dB** L_{night}, as night-time railway noise above this level is associated with adverse effects on sleep.	Strong
To reduce health effects, the GDG strongly recommends that policy-makers implement suitable measures to reduce noise exposure from railways in the population exposed to levels above the guideline values for average and night noise exposure. There is, however, insufficient evidence to recommend one type of intervention over another.	Strong

Aircraft noise

Recommendation	Strength
For average noise exposure, the GDG strongly recommends reducing noise levels produced by aircraft below **45 dB** L_{den}., as aircraft noise above this level is associated with adverse health effects.	Strong
For night noise exposure, the GDG strongly recommends reducing noise levels produced by aircraft during night time below **40 dB** L_{night}., as night-time aircraft noise above this level is associated with adverse effects on sleep.	Strong
To reduce health effects, the GDG strongly recommends that policy-makers implement suitable measures to reduce noise exposure from aircraft in the population exposed to levels above the guideline values for average and night noise exposure. For specific interventions the GDG recommends implementing suitable changes in infrastructure.	Strong

1 Scope

1.1 This British Standard describes methods for rating and assessing sound of an industrial and/or commercial nature, which includes:

a) sound from industrial and manufacturing processes;

b) sound from fixed installations which comprise mechanical and electrical plant and equipment;

c) sound from the loading and unloading of goods and materials at industrial and/or commercial premises; and

d) sound from mobile plant and vehicles that is an intrinsic part of the overall sound emanating from premises or processes, such as that from forklift trucks, or that from train or ship movements on or around an industrial and/or commercial site.

The methods described in this British Standard use outdoor sound levels to assess the likely effects of sound on people who might be inside or outside a dwelling or premises used for residential purposes upon which sound is incident.

NOTE Examples of how ratings might be obtained using this standard are given in Annex A.

1.2 This standard is applicable to the determination of the following levels at outdoor locations:

a) rating levels for sources of sound of an industrial and/or commercial nature; and

b) ambient, background and residual sound levels,

for the purposes of:

1) investigating complaints;

2) assessing sound from proposed, new, modified or additional source(s) of sound of an industrial and/or commercial nature; and

3) assessing sound at proposed new dwellings or premises used for residential purposes.

1.3 The determination of noise amounting to a nuisance is beyond the scope of this British Standard.

Sound of an industrial and/or commercial nature does not include sound from the passage of vehicles on public roads and railway systems.

The standard is not intended to be applied to the rating and assessment of sound from:

a) recreational activities, including all forms of motorsport;

b) music and other entertainment;

c) shooting grounds;

d) construction and demolition;

e) domestic animals;

f) people;

g) public address systems for speech; and

h) other sources falling within the scopes of other standards or guidance.

The standard is not intended to be applied to the derivation of indoor sound levels arising from sound levels outside, or the assessment of indoor sound levels.