



A specialist energy consultancy

Technical Appendix 10.1

Construction Noise Report

Neshion Energy Park

Neshion Ltd

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Executive Summary

TNEI Services Limited (TNEI) was commissioned by Neshion Ltd ('the Applicant') to undertake predictions of noise levels associated with the construction of the proposed Neshion Energy Park ('the Proposed Development'). The noise predictions were used to assess the potential impact of noise attributable to the construction of the Proposed Development on the occupiers of nearby noise sensitive receptors.

The noise impact assessment was undertaken using guidance contained in BS 5228: Part 1 2009+A1:2014 Noise and vibration control on construction and open sites- Noise and the calculation methodology in ISO9613: 2024 Acoustics - Attenuation of sound during propagation outdoors -Part 2: General Method of Calculation, together with noise data for appropriate construction plant.

Seven Noise Assessment Locations representing the residential receptors neighbouring the Proposed Development were identified for the assessment. Predictions were made at these locations assuming that all items of plant will be operating continually throughout the assessment period to provide a worst-case scenario. In addition, the noise model assumed that noise sources would be located within the construction activity areas closest to the receptors, whereas in reality plant would move around the Site and only a proportion of the plant may be operating at any one time. As such, the predictions are likely to over-predict the actual sound levels that are likely to be experienced.

The results show that the predicted noise levels would be below the most stringent of the noise threshold levels detailed in BS 5228. Accordingly, the assessment concludes that construction noise impacts are below the indicator for a likely significant effect during all periods.

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1 Introduction

1.1 Brief

TNEI was commissioned by the Applicant to undertake a construction noise assessment for the Proposed Development. The following steps summarise the noise assessment process:

- Establish typical ambient noise levels at sensitive receptors located closest to the anticipated construction activities and derive appropriate construction noise threshold levels;
- Undertake predictions of construction activity noise throughout the construction period that that would be incident at the nearest sensitive receptors;
- Compare the predicted noise levels across the construction period with the derived threshold values; and
- Identify any requirements for mitigation measures, if needed.

The following terms and definitions are used throughout this report:

- **Emission** refers to the sound level emitted from a sound source, expressed as either a sound power level or a sound pressure level;
- **Immission** refers to the sound pressure level received at a specific location from a noise source(s);
- **SWL** indicates the sound power level in decibels (dB);
- **SPL** indicates the sound pressure level in decibels (dB);
- **NSR** (Noise Sensitive Receptor) are identified receptors that are sensitive to noise;
- **NML** (Noise Monitoring Location) refers to any location where baseline or specific noise levels have been measured; and
- **CNAL** (Construction Noise Assessment Location) refers to any location where the noise immission levels are calculated and assessed.

Unless otherwise stated, all noise levels refer to free field levels i.e. noise levels without influence from any nearby reflective surfaces.

All coordinates refer to Ordnance Survey British National Grid using Eastings, Northings.

1.2 Site Description

Neshion Energy Park ('the Proposed Development') is located on land ('the Site') east of Sullom Voe Oil Terminal (SVT) and the Shetland Gas Plant in Shetland, Scotland. The Proposed Development is shown on **Figure A1.1: Construction Noise Study Area** in **Annex 1: Figures**.

The Proposed Development would be accessed via the B9076, onto an existing unadopted road to Shetland Gas Plant.

1.3 Project Description

A detailed description of the Proposed Development and the construction requirements can be found in **Chapter 2: Description of Proposed Development (EIAR Volume 2)**.

Construction of the Proposed Development would require the establishment of a construction compound, the laying of tracks from the Site entrance across the Site to the wind turbine locations,

excavation of turbine foundations, construction of turbine bases, installation of turbines, and the installation of a substation, battery energy storage system (BESS) and associated infrastructure.

A borrow pit would be excavated in the south of the Site. Concrete batching would be undertaken on-site opposite the temporary construction compound.

The construction period is anticipated to last for 24 months. An indicative construction timetable is presented in **Table 1-1**. Yellow coloured cells indicate construction activities that have been included in the construction noise assessment, whereas cells shaded grey indicate construction activities that would not typically generate high levels of noise, and as such are excluded from the assessment. Examples of such activities could include wiring of plant, activities using handheld tools, and turbine commissioning tests.

Construction activities are expected to be limited to the following core hours;

- Monday – Saturday 07:00-19:00
- Sunday – 07:00-16:00

Although standard construction activities are not anticipated outside of the above times, it should be noted that some activity outside of the core hours could arise, under certain conditions. Examples include construction activities that cannot be stopped once they have begun, such as turbine erection or concrete pours; or where deliveries need to occur outside of standard working hours, for example, to receive Abnormal Indivisible Loads (AILs).

No night-time construction activities are expected, however, there may be requirement to run a small amount of fixed plant during the night-time, for example to provide power to site cabins or provide lighting for health and safety reasons. The assessment, therefore, also considers the potential for night-time noise impacts.

Table 1-1: Indicative Construction Timetable

Construction Activity	Month																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Site establishment/plant deliveries																								
Borrow pit working, access track construction and hardstanding areas																								
Foundations																								
Substation construction																								
BESS installation and civils works																								
Cabling																								
Erection of turbines																								
Site reinstatement and restoration																								

2 Legislation, Policy and Guidance

2.1 Legislation

The overarching European legislation in relation to terrestrial environmental noise is the 'Environmental Noise Directive' (END). The END aims to limit people's exposure to environmental noise however does not prescribe noise limits. Instead, it requires each member state to provide data on noise exposure and to develop action plans to prevent or reduce noise exposure, and to preserve existing quiet areas. Although the UK has now left the EU, this requirement is still in place as the END is transposed and implemented within The Environmental Noise (Scotland) Regulations (1).

The Control of Pollution Act 1974 (COPA 74), as amended, (2) is used to control the noise impacts of construction works. Specifically, Section 60 allows Councils to impose restrictions on construction works, including specifying the plant allowed to be used, hours of activity, or the setting of noise levels that may be emitted from a site. Section 61 allows contractors to apply for permission from the Council to undertake 'noisy' construction activities, for example, railway maintenance during night-time hours, or demolishing a building close to residential receptors.

The Environmental Protection Act 1990 (3) supersedes much of the COPA 74 (though COPA 74 is still relevant for construction noise), and Section 79(1)(g) allows action to be taken where a noise is likely to be harmful to health or a nuisance. This legislation is, however, for 'after the event' i.e. for use if a harmful noise is present, and not for planning purposes, where a harmful noise is yet to be established.

2.2 National Planning Policy

National Planning Policy 4 (NPF4) (4) refers to environmental noise in respect of general health and safety and also in the context of energy developments. Policy 23 (Health and Safety) requires that proposed developments consider and mitigate noise pollution, whilst Policy 11 (Energy) supports the expansion of renewable energy however emphasises that such developments must be sited and designed to minimise adverse impacts, including noise. There is no mention, however, regarding noise from construction works specifically.

No further detail is provided in NPF4, however, at a national level, Planning Advice Note (PAN) 1/2011 Planning and Noise (5) is the overarching document in relation to how environmental noise should be considered for new developments. The PAN *"provides advice on the role of the planning system in helping to prevent and limit the adverse effects of noise."*

The PAN does not present any noise level limits or specific assessment methods, however, guidance on the assessment of environmental noise is included in the accompanying *Technical Advice Note (TAN) Assessment of Noise*. (6)

Both the PAN and the accompanying TAN provide little guidance in respect of construction noise, other than recommending that the use of planning conditions is not the preferred method for controlling temporary construction noise. Specifically, PAN 1/2011 states:

"32. While planning conditions can be used to limit noise from temporary construction sites, it is most effectively controlled through the Control of Pollution Act 1974 (COPA74) and the Pollution and Prevention Control Act 1999 for relevant installations. Notice can be served in advance of works and site conditions set to control activities."

2.3 Relevant Guidance

BS 5228:1997 Noise and vibration control on construction and open sites. Code of practice for basic information and procedures for noise and vibration control, Parts 1 to 5 (7) is the approved Code of

Practice under COPA74, however, it is the 2009 version of the Standard that should be used for planning applications. In this regard the TAN states:

“However, under Environmental Impact Assessments and for planning purposes i.e. not in regard to the Control of Pollution Act 1974, the 2009 version of BS 5228 is applicable. The 2009 version of the standard consists of Parts 1 and 2 for noise and vibration respectively.”

Accordingly, the assessment of construction noise in this report is undertaken with reference to the most up to date version of the standard, which is BS 5228:2009+A1:2014 Parts 1 and 2 ¹ (8) (9), hereafter referred to simply as BS 5228.

Part 1 of BS 5228 provides useful guidance on practical noise control and management, with recommendations for basic methods of noise control, including sections on community relations, training, occupational noise effects, neighbourhood nuisance and project supervision. The annexes provide information on typical construction noise sources, noise calculation procedures, mitigation measures and their effectiveness.

Annexes C and D present measured noise levels from construction activities measured across multiple construction sites in the UK, that may be used to inform the prediction of noise from proposed construction activities. Annex E presents methods of assessing the significance of impacts from construction noise.

¹ The current version of BS 5228 comprises two parts. Part 1 Noise, and Part 2 Vibration. This assessment considers Part 1 only.

3 Methodology

3.1 Considering the Potential for Noise Impacts

Noise levels from construction activities would vary continually over time as activities and plant start and stop, and move around the Site. To assess the potential impacts of construction noise a series of worst-case scenarios can be considered, where construction plant and activities are assumed to be working continually and in locations closest to the nearest sensitive receptors.

In the case of mobile plant, this is modelled as a point source that moves along a defined path, averaging out the sound power level across the length of the line, rather than concentrating it in a single location next to the receptor. In such cases, the predicted noise level will represent an average level expected to be received for the majority of the activity period.

In general, the overall noise level attributable to construction activities from the Site will tend to be higher in the assessment than what would actually occur for the majority of the time, given that all plant is assumed to be operating continually and concurrently.

3.2 Study Area

Noise Sensitive Receptors (NSRs) are properties, people or fauna that are sensitive to noise and, therefore, may require protection from nearby noise sources. The Study Area for the construction noise assessment is defined through the identification of the closest most sensitive NSRs to the Proposed Development Red Line Boundary, on the assumption that if noise levels are acceptable at the closest NSRs, then they should also be acceptable at NSRs at more distant locations to the Proposed Development. The NSRs identified closest to the Proposed Development consist of residential properties located to the south, south east and east of the Site.

3.3 Methodology for the Prediction of Noise

To predict the noise immission levels attributable to the construction of the Proposed Development, a noise propagation model has been produced using the propriety noise modelling software CadnaA. Within the software, complex models can be used to simulate the propagation of noise according to a range of international calculation standards, including BS 5228 and ISO 9613 2:2024 Acoustics - Attenuation of sound during propagation outdoors: Engineering method for the prediction of sound pressure levels outdoors.

For this assessment, noise modelling was undertaken using the ISO 9613-2 propagation model, which was chosen in preference to the calculation method presented in BS 5228, primarily because of some of the significant distances from source to receptor evident. Specifically, BS 5228 notes in F 2.2.2.2, that at distances over 300 m noise predictions using the BS 5228 methodology should be treated with caution, especially where a soft ground correction factor has been applied, because of the increasing importance of meteorological effects; whereas ISO 9613-2 provides equations that have been validated up to greater distances.

The model uses the octave band sound power output of the assumed construction plant as its acoustic input data, and calculates on an octave band basis, attenuation due to geometric spreading, atmospheric absorption, topography and barriers and ground effects.

For the purposes of this assessment, all noise level predictions have been undertaken using a receiver height of 1.5 m above local ground level. Soft ground ($G=1$) attenuation has been assumed at all locations except for water bodies, construction compounds, turbine bases and similar areas of hardstanding, which have been modelled with a ground attenuation of $G=0$ (hard ground).

Air absorption based on a temperature of 10°C and 70% relative humidity has been assumed.

The model uses receivers to display predicted noise levels at specific points in relation to the Proposed Development. The position of the receivers coincides with the selection of Construction Noise Assessment Locations (CNALs). The CNALs have been chosen to represent the closest noise sensitive receptor or group of receptors. **Figure A1.1: Construction Noise Study Area** details the location of these CNALs.

3.4 Limitations of the Noise Model

The noise propagation models are intended to give a good approximation of the construction noise level and the contribution of each individual noise source. However, it is expected that actual levels are unlikely to be matched exactly with modelled values and the following limitations in the model should be considered:

- In accordance with ISO 9613-2, all assessment locations are modelled as downwind of all noise sources and propagation calculations are based on a moderate ground-based temperature inversion, such as commonly occurs at night;
- The predicted barrier attenuation provided by local topography, embankments, walls, buildings and other structures in the intervening ground between source and receiver can only be approximated and not all barrier attenuation will have been accounted for;
- Unless specifically stated, the modelled scenarios assume all noise sources are operating continuously and simultaneously, estimating a worst-case noise level; and
- All mobile plant assumed to be working on tracks (excavators, dozers, rollers etc) have been modelled as moving point sources along their anticipated movement paths and the sound power level of the source is effectively averaged out across the length of the entire line. This will give an approximation of the overall noise levels from mobile plant at receptor locations; however, in reality noise levels would fluctuate as construction plant and activities move around in their activity areas.

3.5 Methodology for the Assessment of Noise

The construction noise assessment is undertaken as follows:

- Define CNALs to represent the closest NSRs;
- Identify applicable Threshold Levels to identify potentially significant effects;
- Predict noise levels for various construction activities or phases at each CNAL;
- Compare the predicted levels and duration of exposure to the BS 5228 Threshold Levels; and
- Where necessary, develop suitable mitigation measures to minimise any significant adverse effects.

Annex E, part E.3.2 of BS 5228-1, provides example methods for assessing the significance of construction noise effects and gives examples of acceptable levels for construction noise.

Table E.1 of BS 5228-1 (represented here as **Table 3-1**) contains an example of the significance criteria that can be used to assess construction noise for residential receptors.

Three categories of thresholds are provided for varying assessment periods (night-time; evenings and weekends; and daytime and Saturday.). The appropriate category for any given receptor can be chosen after quantifying the existing ambient noise levels (rounded to the nearest 5 dB) at that location for the given assessment period. BS 5228 provides the following advice regarding the thresholds:

- “Note 1: A potential significant effect is indicated if the $L_{Aeq,T}$ noise level arising from the site exceeds the threshold level for the category appropriate to the ambient noise level.
- Note 2: If the ambient noise level exceeds the Category C threshold values given in the table (i.e. the ambient noise level is higher than the above values), then a potential significant effect is indicated if the total $L_{Aeq,T}$ noise level for the period increases by more than 3 dB due to site noise.
- Note 3: Applied to residential receptors only.”

Therefore, the assessment of construction noise reflects a specific noise threshold for the locality for a particular period of the day, rather than an absolute noise level limit.

Table 3-1: Example of Threshold of Potential Significant Effect at Dwellings

Assessment Category and Threshold Value Period	Threshold Value $L_{Aeq,T}$ dB		
	Category A ^(A)	Category B ^(B)	Category C ^(C)
Night-Time (23:00 – 07:00)	45	50	55
Evenings and Weekends ^(D)	55	60	65
Daytime (07:00 – 19:00) & Saturdays (07:00 to 13:00)	65	70	75

(A) Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are less than these values;
 (B) Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are the same as category A values;
 (C) Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are higher than category A values;
 (D) 19:00-23:00 weekdays, 13:00-23:00 Saturdays and 07:00 – 23:00 Sundays.

It should be noted that exceedance of the threshold does not in itself indicate a significant effect, rather, the standard states; “If the site noise level exceeds the appropriate category value, then a potential significant effect is indicated. The assessor then needs to consider other project-specific factors, such as the number of receptors affected and the duration and character of the impact, to determine if there is a significant effect”.

3.6 Determining the Threshold Levels

A baseline noise survey was undertaken as part of the Proposed Development’s operational noise assessment and this is reported in detail in **Technical Appendix 10.2: Operational Noise Report (EIAR Volume 4)**.

Data from five Noise Monitoring Locations (NMLs) has been used in order to set the appropriate BS 5228 threshold levels. The NMLs can be seen on **Figure A1.1: Construction Noise Study Area**.

Table 3-2 details the average $L_{Aeq(t)}$ noise level at each NML, after filtering for rainfall events and windspeeds of 5 m/s and above. The levels were calculated for each of the periods defined in BS 5228 for weekday and weekend daytime, evening and night-time. **Annex 2: BS 5228 Baseline Analysis** includes a table of the measured noise levels for all assessment periods, with cells shaded green to indicate data that has been used to calculate the levels detailed in **Annex 2: BS 5228**

Baseline Analysis. Unshaded cells indicate periods where a large amount of data has been filtered out, for example, on particularly windy or rainy days, and not used for calculation of the averages.

Table 3-2: Typical Ambient Noise Levels, $L_{Aeq(t)}$ for each NML.

Noise Monitoring Location	Daytime M - F	Daytime Sat	Evenings	Weekend	Night-time
	Weekdays 07:00 - 19:00	Saturday 07:00 - 13:00	Weekdays 19:00 - 23:00	Saturday 13:00 – 23:00 Sunday 07:00 to 23:00	All days 23:00 - 07:00
NML01	35	35	30	30	30
NML02	50	50	40	45	45
NML03	35	35	30	40	30
NML04	45	45	45	45	45
NML05	55	60	50	55	50

The BS 5228 Category A Threshold Values have been used for all receptors and all time periods despite the existing ambient noise levels at the NSRs being greater than the Category A Threshold Values at NML05 for Weekend Values (with Category B being recommended) and NML02, NML04 and NML05 for Night-time Values (Category B recommended for NML02 and NML04, with Category C for NML05). The category A Threshold Values are the most stringent values offered by BS 5228 and have been used on a precautionary basis.

Accordingly, given the core construction hours and Category A Threshold values, the assessment has been made against the following threshold levels at all CNALs:

- 65 dB $L_{Aeq(t)}$ for Daytime Weekdays 07:00 – 19:00 and Saturday 07:00 – 13:00.
- 55 dB $L_{Aeq(t)}$ for Weekday evenings 19:00 – 23:00, Saturday 13:00 – 23:00 and Sunday 07:00 -23:00.
- 45 dB $L_{Aeq(t)}$ for Night-time 23:00 – 07:00. This is outside of the core construction hours for the Proposed Development however is considered nevertheless against predictions of a potential scenario of generators operating within the construction compound.

The modelled noise levels are assessed against both the 65 dBA and the 55 dBA threshold levels, as the core construction hours overlap the BS 5228 daytime and evening and weekend assessment periods.

4 Noise Impact Assessment

4.1 Modelling of Individual Sound Sources

Noise immission levels would vary throughout the construction period as construction activities, plant and locations vary. For much of the working day the noise associated with construction activities would be less than predicted, as the assessment assumes all equipment is continually operating at full power and in locations closest to the NSRs, whereas in practice, equipment load, and precise location may vary throughout the day. This approach has been adopted to represent a worst-case assessment.

At this stage a detailed plant list is not available, therefore, a generic plant list based upon experience of similar projects has been used. All modelled noise sources and associated sound power level (SWL) and sound pressure level (SPL) data is included in **Annex 3: Noise Model Data**.

For all construction activities, source noise level data was taken from Annex C of BS 5228, which provides octave band SPL levels for a wide variety of construction plant and activities suitable for the estimation of noise immission levels.

Construction noise sources for any given activity would generally comprise a mix of both moving and static sources. Mobile sources include mobile construction plant and Heavy Goods Vehicles (HGVs), while static construction plant could include piling rigs and pumps. Static equipment is usually located at a fixed location for an extended period of time.

For both mobile and static plant, activity noise levels would be transient in nature due to changes in location, on/off periods, and fluctuations of load on any individual machine.

All static items of plant and activities have been modelled as single point sources. All mobile plant (excavators, dozers, dumpers etc.) have been modelled as either a moving point source (line source) along their anticipated movement paths or as a stationary point source located at the closest point of its anticipated work area to any given CNAL.

4.2 Modelling of Construction Activities

Noise propagation modelling has been undertaken considering the key activities that are likely to occur throughout the construction period. This is based on the indicative information presented in **Chapter 2: Description of Proposed Development (EIAR Volume 2)** and detailed in this report.

The modelled scenarios consider the works planned during the core construction hours for each month of the construction period. A night-time scenario that considers the use of diesel generators for lighting rigs and welfare facilities has also been modelled. The construction activities modelled in each scenario are summarised below.

Details of the items of plant included in each modelled scenario, as well as the noise data for each modelled noise source, are included in **Annex 3: Noise Model Data**.

- **Month 1:** Site establishment begins with the construction of the access track to the borrow pit search area.
- **Month 2:** Road upgrades close to the site entrance are being undertaken and the borrow pit becomes operational.
- **Month 3:** Road upgrades continue and construction of the main access track commences, heading up from the site entrance towards Turbine (T) 1. The construction compound is established and brought into operation. Operation of the borrow pit continues and is included in the modelled scenarios for all months up to and including month 12.

- **Month 4:** The access track construction continues in the direction of the substation and BESS, and towards T4. Activities within the construction compound continue and are included in the modelled scenarios for all months up to and including month 22.
- **Month 5:** Construction of the hardstanding's at T1 commence and the remainder of the access track is completed.
- **Month 6:** Construction of the hardstanding's moves to T2.
- **Month 7:** Construction of the hardstanding's moves to T3 and work on the turbine foundations begin at T1 and T2. This includes excavation and concrete pouring. Construction of the substation commences.
- **Months 8 to 13:** Work progress in sequence between each of the turbine locations, consisting of construction of hardstanding's, excavation of foundations, and the pouring of concrete. Construction of the BESS commences. Construction of the substation and BESS continues up to and including month 14.
- **Month 14:** Turbine erection commences at T1.
- **Month 15 to 21:** Turbine delivery and erection continues up to and including Month 22.
- **Month 22:** Turbine deliveries have finished and the final turbine is being erected.

4.3 Calculated Immission Levels

Noise immission levels have been calculated at seven CNALs, which can be seen on **Figure A1.1: Construction Noise Study Area**. The predicted levels for each modelled scenario are detailed in **Table 4.1**.

Table 4.1: Calculated Immission Levels (dB L_{Aeq,t})

CNAL	Noise Immission Level																						
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	NIGHT
CNAL 1	22	29	31	32	36	31	34	35	35	35	37	36	34	32	27	27	27	29	30	29	29	25	10
CNAL 2	24	31	32	33	36	32	35	36	36	36	37	37	34	32	28	28	28	30	30	30	30	26	10
CNAL 3	26	34	35	35	39	35	37	38	38	38	40	39	37	34	30	30	30	32	32	32	33	28	13
CNAL 4	26	35	36	36	38	35	37	38	38	38	39	39	36	34	30	30	29	31	31	31	32	28	13
CNAL 5	38	47	47	47	47	47	48	48	48	48	48	48	34	35	30	30	29	29	30	30	30	28	15
CNAL 6	26	37	37	37	37	37	37	37	37	37	37	37	30	30	27	26	26	26	26	27	27	24	11
CNAL 7	36	48	48	48	48	48	49	49	48	48	49	49	34	35	31	31	31	31	31	31	31	29	15

For all CNALs the predicted noise levels for all months are below the BS 5228 Daytime Category A threshold value of 65 dBA.

Predicted noise levels during core construction hours are also comfortably below the BS 5228 Evening and Weekend Category A threshold value of 55 dBA at all CNALs.

No construction activities are anticipated during the night-time, however, some generation plant or similar may operate during night-time hours within the construction compounds. The predicted noise levels for the modelled night-time scenario are below the night-time Category A threshold value of 45 dBA.

Accordingly, construction noise impacts are below the indicator for a likely significant effect.

4.4 Cumulative Noise

It is noted that the construction period could overlap with the construction of the proposed Sullom Voe Oil Terminal Wind Turbines (Reference: 2025/317/PPF) which is located approximately 2.2 km north west of CNAL5. The Noise Impact Assessment for the proposed Sullom Voe Oil Terminal Wind Turbines scopes out construction noise, however, due to its proximity to shared NSRs it would be appropriate to consider the potential for cumulative construction noise impacts.

Sound pressure levels add together logarithmically, and where two noise sources have noise levels that are more than 10 dB apart, no noise level increase will occur as a result of both sources operating together. For example; 40 dB + 30 dB = 40 dB.

Therefore, when considering the potential for cumulative noise effects, it is important to consider whether the noise levels from multiple developments are likely to be within or greater than 10 dB of each other at any given receptor.

Similarly, if the predicted noise level from a noise source is at least 10 dB below a noise level limit then the contribution of that noise source cannot contribute to any exceedance of the noise limit.

The closest NSR that would be shared by both developments is at CNAL5, where the maximum predicted noise levels from the Proposed Development are 47 - 48 dBA between months 2 and 12, which is more than 10 dB below the Category A Weekday Daytime threshold of 65 dBA. Accordingly, construction activities from the Proposed Development cannot contribute to an exceedance of this threshold, even if construction is occurring at the same time as the proposed Sullom Voe Wind Turbines.

The predicted levels are not at least 10 dB below the evening and weekend BS 5228 thresholds however, therefore, there is the potential for this threshold to be exceeded. Analysis of the predicted noise levels indicates that the primary contributor to noise at CNAL5 would be from activities occurring within the borrow pit search area, therefore, if the Sullom Voe Wind Turbine development was being constructed at the same time as borrow pit operations were occurring, it may be necessary to restrict borrow pit related activities to weekday daytime hours only.

To summarise, construction noise levels from the Proposed Development would be at least 10 dB below the Category A threshold levels during weekday daytimes and no exceedances of the threshold could occur from cumulative construction activities. In the event that the two developments are constructed at the same time, it may be necessary to restrict some construction activities in the area of the borrow pit during the evening and weekend, however, no significant effects are anticipated from cumulative construction activities.

5 Noise Mitigation Measures

5.1 Standard (Tertiary) Mitigation

No specific mitigation measures have been identified as being required during the construction period, however, a range of good practice measures, as described in Section 8 of BS 5228-1:2009+A1:2014, would be employed to minimise any noise impacts. These include;

- Keep local residents informed of the proposed working schedule, where appropriate, including the times and duration of any abnormally noisy activity that may cause concern.
- Ensure that any extraordinary site work continuing throughout 24 hours of a day (for example, crane operations lifting components onto the tower) would be programmed, when appropriate, so that haulage vehicles would not arrive at or leave the Site outside of core hours or other specific delivery hours, with the exception of abnormal loads that would be scheduled to avoid significant traffic flows.
- Ensure all vehicles and mechanical plant would be fitted with effective exhaust silencers and be subject to programmed maintenance.
- Select inherently quiet plant where appropriate - all major compressors would be 'sound reduced' models fitted with properly lined and sealed acoustic covers, which would be kept closed whenever the machines are in use.
- Ensure all ancillary pneumatic percussive tools would be fitted with mufflers or silencers of the type recommended by the manufacturers.
- Instruct that machines would be shut down between work periods or throttled down to a minimum.
- Regularly maintain all equipment used on-site, including maintenance related to noise emissions.
- Vehicles would be loaded carefully to ensure minimal drop heights so as to minimise noise during this operation.
- Ensure all ancillary plant such as generators and pumps would be positioned so as to cause minimum noise disturbance and if necessary, temporary acoustic screens or enclosures should be provided.

5.2 Additional (Secondary) Mitigation

In the event that construction occurs at the same time as construction of the proposed Sullom Voe Oil Terminal Wind Turbine development, it may be necessary to restrict construction activities related to the borrow pit e.g. winning of rock, rock crushing and distribution of materials to 07:00 – 19:00 weekdays and 07:00 – 13:00 Saturdays. This work would need to be avoided during the BS 5228 evening and weekend periods.

6 Summary

The noise impact assessment has considered the existing noise environment at NSRs within close proximity to the Proposed Development to determine appropriate noise threshold levels for construction activities.

Noise propagation modelling has been undertaken in accordance with ISO 9613-2 and the anticipated noise immission levels presented for scenarios likely to occur throughout the construction period of the Proposed Development. The modelled scenarios consider the 'noisiest' activities that are likely to occur during the construction period on a monthly basis and the modelling assumes that the construction activities are occurring at locations within the Site that are closest to the NSRs.

During construction of the Proposed Development, the predicted noise levels are below the most stringent Category A threshold values for daytime and evening and weekend periods, as defined within BS 5228.

Unscheduled works that may need to take place during BS 5228 evening and weekend periods, for example, turbine erection, concrete pours or AIL deliveries would generate noise levels that are below the threshold value for evenings and weekends.

No construction is anticipated during night-time periods, however a scenario to consider generators running in the construction compound was considered and predictions do not exceed the BS 5228 night-time threshold value.

Although there is the potential for construction to occur at the same time as the nearby proposed Sullom Voe Oil Terminal Wind Turbines, no cumulative construction noise effects are anticipated during normal weekday daytime hours, though, some site activity may need to be restricted during the evening and weekends in the region of the borrow pit search area.

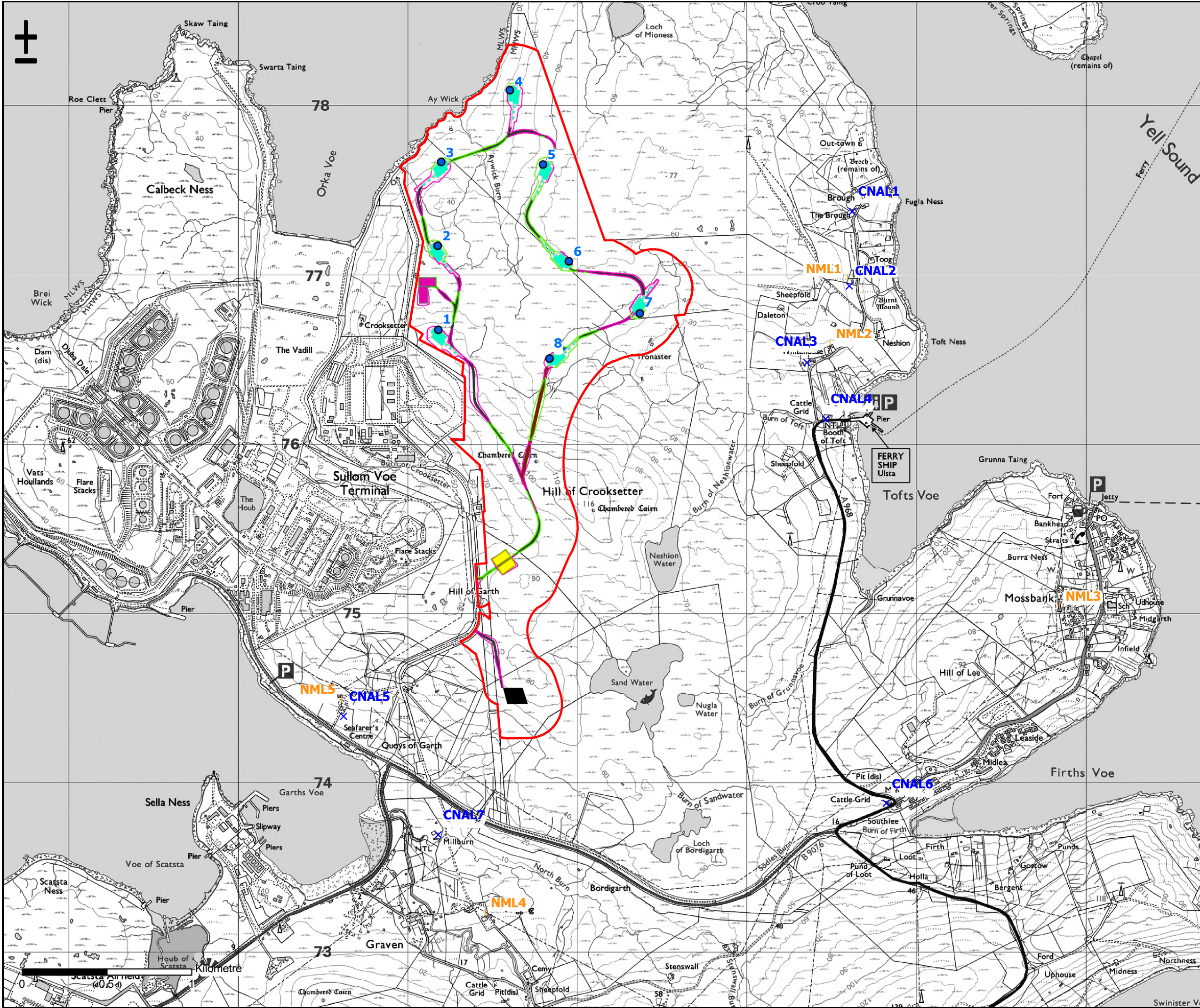
The assessment concludes that no significant effects would occur from the construction of the Proposed Development.

7 References

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16. **UK Government.** Environmental Protection Act. 1990.

Annex 1– Figures

- Figure A1.1: Construction Noise Study Area



LEGEND

- Application Boundary
- Proposed Turbines
- Construction Noise Assessment Locations (CNALs)
- Noise Monitoring locations (NMLs)
- Proposed Substation and BESS
- Proposed Construction Compound
- Earthworks - Cut
- Earthworks - Fill
- Proposed Hardstanding
- Proposed Borrow Pit Search Area
- Proposed Operation and Maintenance Access Track
- Proposed Access Tracks

Rev.	Date	Details	Drawn	Approved
2	29/04/2026	THIRD ISSUE	MR	JS
1	10/03/2026	SECOND ISSUE	MR	JS
0	03/03/2026	FIRST ISSUE	MR	JS

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Client:

Drawing Status: FOR INFORMATION

Project Title: NESHION ENERGY PARK

Drawing Title: FIGURE A1.1: CONSTRUCTION NOISE STUDY AREA

Scale: 1:21,000	Original Size: A3	Spatial Reference: British National Grid
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Drawing Number: 16430-011

Annex 2– BS 5228 Baseline Analysis

NML01		Measured Sound Pressure Level (Filtered) dB LAeq (t)									
Assessment Period	Daytime _{Mo-F}		Daytime _{Sat}		Evenings		Weekend		Night-time		
	Weekdays 07:00 - 19:00		Saturday 07:00 - 13:00		Weekdays 19:00 - 23:00		Saturday 13:00 – 23:00 & Sunday 07:00 to 23:00		All days 23:00 - 07:00		
26/02/2025	41	380							32	40	
27/02/2025	32	20									
28/02/2025											
01/03/2025											
02/03/2025											
03/03/2025											
04/03/2025											
05/03/2025											
06/03/2025	36	320									
07/03/2025	31	310			31	240			26	350	
08/03/2025									32	20	
09/03/2025							37	50			
10/03/2025											
11/03/2025											
12/03/2025									31	230	
13/03/2025	33	540							32	10	
14/03/2025	30	390			28	130					
15/03/2025							28	70			
16/03/2025							31	680	32	470	
17/03/2025	33	600			31	240			31	480	
18/03/2025	48	720			31	240			34	480	
19/03/2025	35	400			35	20			36	40	
20/03/2025	33	630									
21/03/2025											
22/03/2025											
23/03/2025							30	150			
24/03/2025											
25/03/2025											
26/03/2025											
27/03/2025											
28/03/2025											
29/03/2025			33	260					35	40	
30/03/2025							29	360	34	100	
31/03/2025											
01/04/2025	39	100									
02/04/2025									34	400	
03/04/2025	44	200									
04/04/2025									35	10	
05/04/2025							29	70	39	170	
06/04/2025							33	960	34	480	
07/04/2025	36	700			30	240			33	480	
08/04/2025	33	720			27	240			30	450	
09/04/2025	32	510			26	190			30	60	
10/04/2025											
11/04/2025					29	210			27	380	
12/04/2025			40	90				39	50	35	370
13/04/2025								30	10	36	10
14/04/2025	36	10			34	100					
15/04/2025	39	200								34	250
Average	36		33		29		31		32		

NML02		Measured Sound Pressure Level (Filtered) dB LAeq (t)									
Assessment Period	Daytime _{M-F}		Daytime _{Sat}		Evenings		Weekend		Night-time		
	Weekdays 07:00 - 19:00		Saturday 07:00 - 13:00		Weekdays 19:00 - 23:00		Saturday 13:00 – 23:00 & Sunday 07:00 to 23:00		All days 23:00 - 07:00		
26/02/2025	42	350							34	40	
27/02/2025	36	20									
28/02/2025											
01/03/2025											
02/03/2025											
03/03/2025											
04/03/2025											
05/03/2025											
06/03/2025	50	320									
07/03/2025	43	310			37	240			33	350	
08/03/2025									38	20	
09/03/2025							50	50			
10/03/2025											
11/03/2025											
12/03/2025									42	230	
13/03/2025	45	540							31	10	
14/03/2025	51	390			35	130					
15/03/2025							31	70			
16/03/2025							39	680	42	470	
17/03/2025	47	600			37	240			39	480	
18/03/2025	47	720			37	240			46	480	
19/03/2025	51	400			39	20			41	40	
20/03/2025	46	630									
21/03/2025											
22/03/2025											
23/03/2025							36	150			
24/03/2025											
25/03/2025											
26/03/2025											
27/03/2025											
28/03/2025											
29/03/2025			49	260					31	40	
30/03/2025							47	360	37	100	
31/03/2025											
01/04/2025	46	100									
02/04/2025									49	400	
03/04/2025	50	200									
04/04/2025									37	10	
05/04/2025							33	70	43	170	
06/04/2025							44	960	41	480	
07/04/2025	47	700			36	240			45	480	
08/04/2025	45	720			32	240			41	450	
09/04/2025	47	510			33	190			35	60	
10/04/2025											
11/04/2025					50	210			34	380	
12/04/2025			49	90			45	50	47	370	
13/04/2025							38	10	36	10	
14/04/2025	41	10			38	100			49	250	
15/04/2025	49	300			29	20			29	180	
16/04/2025					29	70			48	70	
17/04/2025	48	430			35	100			42	220	
18/04/2025	53	400			32	220			44	250	
19/04/2025			50	300							
20/04/2025							43	680	48	310	
21/04/2025	55	160			35	10			35	10	
22/04/2025	43	20									
23/04/2025					38	20			47	350	
24/04/2025	57	720			39	190			41	130	
25/04/2025	48	30			38	100			44	190	
26/04/2025			43	40			45	150			
27/04/2025							49	20	48	30	
28/04/2025	49	100			44	240			48	400	
29/04/2025	45	160			45	240			46	240	
30/04/2025	58	10									
Average	49		49		38		43		44		

NML03		Measured Sound Pressure Level (Filtered) dB LAeq (t)									
Assessment Period	Daytime _{07:00 - 19:00}		Daytime _{19:00 - 23:00}		Evenings		Weekend		Night-time		
	Weekdays 07:00 - 19:00	Saturday 07:00 - 13:00	Saturday 13:00 - 23:00	Weekdays 19:00 - 23:00	Saturday 13:00 - 23:00 & Sunday 07:00 to 23:00	All days 23:00 - 07:00					
26/02/2025	41	330							33	40	
27/02/2025	34	20									
28/02/2025											
01/03/2025											
02/03/2025											
03/03/2025											
04/03/2025											
05/03/2025											
06/03/2025	37	320									
07/03/2025	38	310			41	240			35	350	
08/03/2025									34	20	
09/03/2025							33	50			
10/03/2025											
11/03/2025											
12/03/2025									34	230	
13/03/2025	46	540							29	10	
14/03/2025	33	390			34	130					
15/03/2025							50	70			
16/03/2025							39	680	32	470	
17/03/2025	35	600			29	240			31	480	
18/03/2025	34	720			28	240			28	480	
19/03/2025	35	400			31	20			34	40	
20/03/2025	36	630									
21/03/2025											
22/03/2025											
23/03/2025							40	150			
24/03/2025											
25/03/2025											
26/03/2025											
27/03/2025											
28/03/2025											
29/03/2025			35	260					36	40	
30/03/2025							33	360	35	100	
31/03/2025											
01/04/2025	40	100									
02/04/2025									41	400	
03/04/2025	45	200									
04/04/2025									38	10	
05/04/2025							30	70	39	170	
06/04/2025							47	960	34	480	
07/04/2025	51	700			37	240			32	480	
08/04/2025	36	720			28	240			29	450	
09/04/2025	32	510			30	190			28	60	
10/04/2025											
11/04/2025					27	210			26	380	
12/04/2025			39	90			37	50	36	370	
13/04/2025							35	10	23	10	
14/04/2025	39	10			31	100			34	250	
15/04/2025	37	300			30	20			27	180	
16/04/2025					36	70			46	70	
17/04/2025	56	430			34	100			32	220	
18/04/2025	53	400			32	220			31	250	
19/04/2025			56	300							
20/04/2025							38	680	31	310	
21/04/2025	34	160			30	10			33	10	
22/04/2025	36	20									
23/04/2025					36	20			34	350	
24/04/2025	38	720			33	190			35	130	
25/04/2025	38	30			37	100			38	190	
26/04/2025			41	40			40	150			
27/04/2025							37	20	39	30	
28/04/2025	31	100			28	240			29	400	
29/04/2025	35	160			32	240			36	240	
30/04/2025	39	10									
Average	35		35		30		39		32		

Data Included within Calculated Average
Data Not included within Calculated Average due to insufficient time
Data Not included within Calculated Average due to Abnormal Increase in Noise Levels

NML04	Measured Sound Pressure Level (Filtered) dB LAeq (t)									
Assessment Period	Daytime _{M - F}		Daytime _{Sat}		Evenings		Weekend		Night-time	
	Weekdays 07:00 - 19:00		Saturday 07:00 - 13:00		Weekdays 19:00 - 23:00		Saturday 13:00 – 23:00 & Sunday 07:00 to 23:00		All days 23:00 - 07:00	
26/02/2025	44	310							52	40
27/02/2025	48	20								
28/02/2025										
01/03/2025										
02/03/2025										
03/03/2025										
04/03/2025										
05/03/2025										
06/03/2025	45	320								
07/03/2025	46	310			35	240			35	350
08/03/2025									43	20
09/03/2025							53	50		
10/03/2025										
11/03/2025										
12/03/2025									50	230
13/03/2025	49	540							47	10
14/03/2025	45	390			44	130				
15/03/2025							46	70		
16/03/2025							46	680	47	470
17/03/2025	45	600			40	240			42	480
18/03/2025	41	720			41	240			39	480
19/03/2025	39	400			44	20			56	40
20/03/2025	45	630								
21/03/2025										
22/03/2025										
23/03/2025							45	150		
24/03/2025										
25/03/2025										
26/03/2025										
27/03/2025										
28/03/2025										
29/03/2025			43	260					52	40
30/03/2025							49	360	45	100
31/03/2025										
01/04/2025	47	100								
02/04/2025									54	400
03/04/2025	56	200								
04/04/2025									43	10
05/04/2025							32	70	43	170
06/04/2025							38	960	37	480
07/04/2025	44	700			38	240			36	480
08/04/2025	42	720			44	240			46	450
09/04/2025	46	510			43	190			42	60
10/04/2025										
11/04/2025					42	210			45	380
12/04/2025			41	90			41	50	45	370
13/04/2025							40	10	25	10
14/04/2025	35	10			42	100			42	250
15/04/2025	38	300			44	20			45	180
16/04/2025					52	70			51	70
17/04/2025	48	430			48	100			51	220
18/04/2025	48	400			50	220			51	250
19/04/2025			49	300						
20/04/2025							50	680	37	310
21/04/2025	46	160			36	10			34	10
22/04/2025	41	20								
23/04/2025					48	20			49	350
24/04/2025	44	720			43	190			44	130
25/04/2025	48	30			47	100			40	190
26/04/2025			47	40			42	150		
27/04/2025							41	20	54	30
28/04/2025	52	100			51	240			40	400
29/04/2025	49	160			50	240			42	240
30/04/2025	47	10								
Average	44		46		43		46		43	

NML05	Measured Sound Pressure Level (Filtered) dB LAeq (t)									
Assessment Period	Daytime _{M - F}		Daytime _{Sat}		Evenings		Weekend		Night-time	
	Weekdays 07:00 - 19:00		Saturday 07:00 - 13:00		Weekdays 19:00 - 23:00		Saturday 13:00 – 23:00 & Sunday 07:00 to 23:00		All days 23:00 - 07:00	
26/02/2025	48	290							55	40
27/02/2025	53	20								
28/02/2025										
01/03/2025										
02/03/2025										
03/03/2025										
04/03/2025										
05/03/2025										
06/03/2025	47	320								
07/03/2025	56	310			44	240			36	350
08/03/2025									60	20
09/03/2025							60	50		
10/03/2025										
11/03/2025										
12/03/2025									67	230
13/03/2025	59	540							61	10
14/03/2025	57	390			58	130				
15/03/2025							64	70		
16/03/2025							58	680	47	470
17/03/2025	52	600			53	240			44	480
18/03/2025	46	720			51	240			47	480
19/03/2025	49	400			53	20			58	40
20/03/2025	52	630								
21/03/2025										
22/03/2025										
23/03/2025							52	150		
24/03/2025										
25/03/2025										
26/03/2025										
27/03/2025										
28/03/2025										
29/03/2025			57	260					66	40
30/03/2025							58	360	45	100
31/03/2025										
01/04/2025	48	100								
02/04/2025									55	400
03/04/2025	59	200								
04/04/2025									54	10
05/04/2025							48	70	50	170
06/04/2025							47	960	46	480
07/04/2025	49	700			51	240			46	480
08/04/2025	51	720			53	240			58	450
09/04/2025	59	510			60	190			59	60
10/04/2025										
11/04/2025					50	210			43	380
12/04/2025			49	90			46	50	47	370
13/04/2025							41	10	33	10
14/04/2025	47	10			42	100			47	250
15/04/2025	45	300			55	20			57	180
16/04/2025					67	70			50	70
17/04/2025	55	430			61	100			60	220
18/04/2025	58	400			64	220			64	250
19/04/2025			61	300						
20/04/2025							63	680	46	310
21/04/2025	50	160			44	10			41	10
22/04/2025	48	20								
23/04/2025					69	20			60	350
24/04/2025	48	720			44	190			45	130
25/04/2025	47	30			49	100			48	190
26/04/2025			51	40			49	150		
27/04/2025							49	20	63	30
28/04/2025	65	100			59	240			54	400
29/04/2025	62	160			54	240			50	240
30/04/2025	52	10								
Average	53		59		52		56		48	

Data Included within Calculated Average
Data Not included within Calculated Average due to insufficient time
Data Not included within Calculated Average due to Abnormal Increase in Noise Levels

Annex 3– Noise Model Data

- Sound Power Levels for Modelled Plant
- Modelled Plant for Each Assessment Scenario

Sound Power Levels for Modelled Plant

Name	Frequency (Hz)								Total		Source
	63	125	250	500	1000	2000	4000	8000	dBA	dBZ	
Ground Excavation/Earthworks: Dozer	117	118	109	101	102	98	96	92	108	121	BS 5228-1:2009+A1:2014: Annex C. Reference C2.10
Ground Excavation/Earthworks: Tracked Excavator	113	106	105	105	101	99	96	91	107	115.1	BS 5228-1:2009+A1:2014: Annex C. Reference C2.14
Distribution of Material: Articulated dump truck	113	115	105	103	104	101	97	90	108.5	117.8	BS 5228-1:2009+A1:2014: Annex C. Reference C2.33
Distribution of Material: Telescopic handler	113	107	97	95	92	90	84	75	98.5	114.1	BS 5228-1:2009+A1:2014: Annex C. Reference C2.35
Craneage for piling (lifting piles, casings, etc): Tracked mobile crane	109	105	97	95	90	88	89	79	97.8	110.8	BS 5228-1:2009+A1:2014: Annex C. Reference C3.29
Distribution of materials: Dumper	112	109	102	101	100	96	89	81	104.3	114.5	BS 5228-1:2009+A1:2014: Annex C. Reference C.4.3
Mixing concrete: Concrete mixer truck	111	102	94	97	98	106	88	83	108	112.9	BS 5228-1:2009+A1:2014: Annex C. Reference C.4.20

Name	Frequency (Hz)								Total		Source
	63	125	250	500	1000	2000	4000	8000	dBA	dBZ	
Mixing concrete: Large concrete mixer	100	101	107	100	97	95	91	88	103.7	109.7	BS 5228-1:2009+A1:2014: Annex C. Reference C.4.22
Pumping Concrete: Truck mounted concrete pump + boom arm	111	105	103	103	102	103	95	91	107.8	113.7	BS 5228-1:2009+A1:2014: Annex C. Reference C.4.29
Concreting (Other): Mobile telescopic crane	115	110	106	102	99	95	88	80	104.6	116.8	BS 5228-1:2009+A1:2014: Annex C. Reference C.4.39
Concreting (Other): Tracked mobile crane	96	99	96	90	94	94	83	74	98.6	103.4	BS 5228-1:2009+A1:2014: Annex C. Reference C.4.50
Power for site cabins: Diesel generator	108	102	85	82	81	76	73	65	89.4	109	BS 5228-1:2009+A1:2014: Annex C. Reference C.4.76
Power for Lighting: Diesel generator	106	99	94	90	87	83	84	77	93.5	107.2	BS 5228-1:2009+A1:2014: Annex C. Reference C.4.86
Road planing : Road planer	109	115	107	105	105	102	98	95	109.7	117.3	BS 5228-1:2009+A1:2014: Annex C. Reference C.5.7

Name	Frequency (Hz)								Total		Source
	63	125	250	500	1000	2000	4000	8000	dBA	dBZ	
Spreading Chipping/fill: Dozer	110	112	104	103	106	104	98	90	109.9	115.7	BS 5228-1:2009+A1:2014: Annex C. Reference C.5.13
Earthworks: Tracked excavator	104	107	103	103	104	101	98	93	108.1	112.1	BS 5228-1:2009+A1:2014: Annex C. Reference C.5.18
Rolling & Compaction: Vibratory roller	118	110	101	100	98	93	87	82	103	118.8	BS 5228-1:2009+A1:2014: Annex C. Reference C.5.20
Haulage: Road lorry (full)	124	110	102	101	105	100	99	92	108.6	124.3	BS 5228-1:2009+A1:2014: Annex C. Reference C.6.21
Face shovel loading dump trucks: Wheeled loader	116	116	115	113	114	111	105	98	117.8	122.4	BS 5228-1:2009+A1:2014: Annex C. Reference C.9.7
Breaking boulders/oversized material: Excavator mounted rock breaker	119	117	113	117	115	115	112	108	121	124.5	BS 5228-1:2009+A1:2014: Annex C. Reference C.9.12
Breaking boulders/oversized material: Tracked semi-mobile crusher	119	119	116	115	113	111	106	96	118.1	124.3	BS 5228-1:2009+A1:2014: Annex C. Reference C.9.15

Modelled Plant for Each Assessment Scenario

Month 1 - Site establishment begins with the construction of the access track to the borrow pit search area.		
Scenario & Activity Description	Plant	BS5228 Reference
Junction Creation	Vibratory Roller	C5.20LAeq
	Articulated Dump Truck	C5.16LAmax
	Tracked Excavator	C5.18LAeq
	Dozer	C5.13LAeq
Road Upgrades	Dumper	C4.3LAmax
	Tracked Excavator	C2.14LAeq
	Dozer	C2.10LAeq

Month 2 - Road upgrades close to the site entrance are being undertaken and the borrow pit becomes operational.

Scenario & Activity Description	Plant	BS5228 Reference
Borrow Pit Activity	Excavator Mounted Rock Breaker	C.9.12LAeq
	Tracked Semi Mobile Rock Crusher	C.9.15LAeq
	Tracked Excavator	C2.14LAeq
	Dozer	C2.10LAeq
	Face Shovel Wheeled Loader	C.9.7LAeq
Road Upgrades	Dumper	C4.3LAmax
	Tracked Excavator	C2.14LAeq
	Dozer	C2.10LAeq

Month 3 - Road upgrades continue and construction of the main access track commences, heading up from the site entrance towards Turbine (T) 1. The construction compound is established and brought into operation. Operation of the borrow pit continues and is included in the modelled scenarios for all months up to and including month 12.

Scenario & Activity Description	Plant	BS5228 Reference
Borrow Pit Activity	Excavator Mounted Rock Breaker	C.9.12LAeq
	Tracked Semi Mobile Rock Crusher	C.9.15LAeq
	Tracked Excavator	C2.14LAeq
	Dozer	C2.10LAeq
	Face Shovel Wheeled Loader	C.9.7LAeq
Road Upgrades	Dumper	C4.3LAmax
	Tracked Excavator	C2.14LAeq
	Dozer	C2.10LAeq
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq

Month 3 - Road upgrades continue and construction of the main access track commences, heading up from the site entrance towards Turbine (T) 1. The construction compound is established and brought into operation. Operation of the borrow pit continues and is included in the modelled scenarios for all months up to and including month 12.

Scenario & Activity Description	Plant	BS5228 Reference
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Access Track	Vibratory Roller	C5.20LAeq
	Dumper	C4.3LAmax
	Tracked Excavator	C5.18LAeq
	Dozer	C.5.13LAeq

Month 4 - The access track construction continues in the direction of the substation and BESS and towards T4. Activities within the construction compound continue and are included in the modelled scenarios for all months up to and including month 22.

Scenario & Activity Description	Plant	BS5228 Reference
Borrow Pit Activity	Excavator Mounted Rock Breaker	C.9.12LAeq
	Tracked Semi Mobile Rock Crusher	C.9.15LAeq
	Tracked Excavator	C2.14LAeq
	Dozer	C2.10LAeq
	Face Shovel Wheeled Loader	C.9.7LAeq
Road Upgrades	Vibratory Roller	C5.20LAeq
	Construction Planer	C.5.7LAeq
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Access Track	Vibratory Roller	C5.20LAeq

Month 4 - The access track construction continues in the direction of the substation and BESS and towards T4. Activities within the construction compound continue and are included in the modelled scenarios for all months up to and including month 22.

Scenario & Activity Description	Plant	BS5228 Reference
	Dumper	C4.3LAmax
	Tracked Excavator	C5.18LAeq
	Dozer	C.5.13LAeq

Month 5 - Construction of the hardstanding's at T1 commences and the remainder of the access track is completed.

Scenario & Activity Description	Plant	BS5228 Reference
Borrow Pit Activity	Excavator Mounted Rock Breaker	C.9.12LAeq
	Tracked Semi Mobile Rock Crusher	C.9.15LAeq
	Tracked Excavator	C2.14LAeq
	Dozer	C2.10LAeq
	Face Shovel Wheeled Loader	C.9.7LAeq
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Access Track	Vibratory Roller	C5.20LAeq
	Dumper	C4.3LAmax
	Tracked Excavator	C5.18LAeq
	Dozer	C.5.13LAeq

Month 5 - Construction of the hardstanding's at T1 commences and the remainder of the access track is completed.

Scenario & Activity Description	Plant	BS5228 Reference
Crane Hardstands	Tracked Excavator	C2.14LAeq
	Dozer	C2.10LAeq
	Vibratory Roller	C5.20LAeq
	Dumper Truck to/from Borrow Pits	C.4.3LAmax

Month 6 - Construction of the hardstanding's moves to T2.

Scenario & Activity Description	Plant	BS5228 Reference
Borrow Pit Activity	Excavator Mounted Rock Breaker	C.9.12LAeq
	Tracked Semi Mobile Rock Crusher	C.9.15LAeq
	Tracked Excavator	C2.14LAeq
	Dozer	C2.10LAeq
	Face Shovel Wheeled Loader	C.9.7LAeq
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Crane Hardstands	Tracked Excavator	C2.14LAeq
	Dozer	C2.10LAeq
	Vibratory Roller	C5.20LAeq
	Dumper Truck to/from Borrow Pits	C.4.3LAmax

Month 7 - Construction of the hardstanding's moves to T3 and work on the turbine foundations begin at T1 and T2. This includes excavation and concrete pouring. Construction of the substation commences.

Scenario & Activity Description	Plant	BS5228 Reference
Borrow Pit Activity	Excavator Mounted Rock Breaker	C.9.12LAeq
	Tracked Semi Mobile Rock Crusher	C.9.15LAeq
	Tracked Excavator	C2.14LAeq
	Dozer	C2.10LAeq
	Face Shovel Wheeled Loader	C.9.7LAeq
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Concrete Batching Plant	Large Concrete Mixer	C.4.22LAeq
	Road Lorry (Full)	C.6.21LAmax
Crane Hardstands	Tracked Excavator	C2.14LAeq
	Dozer	C2.10LAeq

Month 7 - Construction of the hardstanding's moves to T3 and work on the turbine foundations begin at T1 and T2. This includes excavation and concrete pouring. Construction of the substation commences.

Scenario & Activity Description	Plant	BS5228 Reference
	Vibratory Roller	C5.20LAeq
	Dumper Truck to/from Borrow Pits	C.4.3LAmax
Turbine Foundation Excavation	Tracked Excavator	C2.14LAeq
	Dumper	C4.30LAmax
	Dozer	C2.10LAeq
Turbine Foundation Pouring	Concrete Mixer Truck	C4.20LAeq
	Truck Mounted Concrete Pump + Boom Arm	C4.29LAeq
	Tracked Excavator	C2.14LAeq
Substation Construction	Dozer	C2.10LAeq
	Dumper	C4.30LAmax
	Tracked Excavator	C2.14LAeq
	Road Lorry (Full)	C.6.21LAmax

Month 8 – Work progress in sequence for each of the turbine locations from month 8 to month 14. In month 8 construction of hardstandings occurs at T4, excavation of foundations at T3 and pouring of concrete at T2. Construction of the BESS commences.

Scenario & Activity Description	Plant	BS5228 Reference
Borrow Pit Activity	Excavator Mounted Rock Breaker	C.9.12LAeq
	Tracked Semi Mobile Rock Crusher	C.9.15LAeq
	Tracked Excavator	C2.14LAeq
	Dozer	C2.10LAeq
	Face Shovel Wheeled Loader	C.9.7LAeq
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Concrete Batching Plant	Large Concrete Mixer	C.4.22LAeq
	Road Lorry (Full)	C.6.21LAmax
Crane Hardstands	Tracked Excavator	C2.14LAeq

Month 8 – Work progress in sequence for each of the turbine locations from month 8 to month 14. In month 8 construction of hardstandings occurs at T4, excavation of foundations at T3 and pouring of concrete at T2. Construction of the BESS commences.

Scenario & Activity Description	Plant	BS5228 Reference
	Dozer	C2.10LAeq
	Vibratory Roller	C5.20LAeq
	Dumper Truck to/from Borrow Pits	C.4.3LAmax
Turbine Foundation Excavation	Tracked Excavator	C2.14LAeq
	Dumper	C4.30LAmax
	Dozer	C2.10LAeq
Turbine Foundation Pouring	Concrete Mixer Truck	C4.20LAeq
	Truck Mounted Concrete Pump + Boom Arm	C4.29LAeq
	Tracked Excavator	C2.14LAeq
Substation Construction	Dozer	C2.10LAeq
	Dumper	C4.30LAmax
	Tracked Excavator	C2.14LAeq
	Road Lorry (Full)	C.6.21LAmax
BESS Construction	Dozer	C2.10LAeq

Month 8 – Work progress in sequence for each of the turbine locations from month 8 to month 14. In month 8 construction of hardstandings occurs at T4, excavation of foundations at T3 and pouring of concrete at T2. Construction of the BESS commences.

Scenario & Activity Description	Plant	BS5228 Reference
	Dumper	C4.30LAmax
	Tracked Excavator	C2.14LAeq
	Road Lorry (Full)	C.6.21LAmax
	Concrete Mixer Truck + Truck Mounted Concrete Pump + Boom Arm	C.4.20LAeq

Month 9 - Turbine hardstanding construction moves onto turbine 5, with turbine foundation excavations taking place at turbine 4 and turbine foundations pouring occurring at turbine 3. Both substation and BESS compounds are under construction.

Scenario & Activity Description	Plant	BS5228 Reference
Borrow Pit Activity	Excavator Mounted Rock Breaker	C.9.12LAeq
	Tracked Semi Mobile Rock Crusher	C.9.15LAeq
	Tracked Excavator	C2.14LAeq
	Dozer	C2.10LAeq
	Face Shovel Wheeled Loader	C.9.7LAeq
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Concrete Batching Plant	Large Concrete Mixer	C.4.22LAeq
	Road Lorry (Full)	C.6.21LAmax
Crane Hardstands	Tracked Excavator	C2.14LAeq

Month 9 - Turbine hardstanding construction moves onto turbine 5, with turbine foundation excavations taking place at turbine 4 and turbine foundations pouring occurring at turbine 3. Both substation and BESS compounds are under construction.

Scenario & Activity Description	Plant	BS5228 Reference
	Dozer	C2.10LAeq
	Vibratory Roller	C5.20LAeq
	Dumper Truck to/from Borrow Pits	C.4.3LAmax
Turbine Foundation Excavation	Tracked Excavator	C2.14LAeq
	Dumper	C4.30LAmax
	Dozer	C2.10LAeq
Turbine Foundation Pouring	Concrete Mixer Truck	C4.20LAeq
	Truck Mounted Concrete Pump + Boom Arm	C4.29LAeq
	Tracked Excavator	C2.14LAeq
Substation Construction	Dozer	C2.10LAeq
	Dumper	C4.30LAmax
	Tracked Excavator	C2.14LAeq
	Road Lorry (Full)	C.6.21LAmax
	Concrete Mixer Truck + Truck Mounted Concrete Pump + Boom Arm	C.4.20LAeq

Month 9 - Turbine hardstanding construction moves onto turbine 5, with turbine foundation excavations taking place at turbine 4 and turbine foundations pouring occurring at turbine 3. Both substation and BESS compounds are under construction.

Scenario & Activity Description	Plant	BS5228 Reference
BESS Construction	Dozer	C2.10LAeq
	Dumper	C4.30LAmax
	Tracked Excavator	C2.14LAeq
	Road Lorry (Full)	C.6.21LAmax
	Concrete Mixer Truck + Truck Mounted Concrete Pump + Boom Arm	C.4.20LAeq

Month 10 - Turbine hardstanding construction moves onto turbine 6, with turbine foundation excavations taking place at turbine 5 and turbine foundations pouring occurring at turbine 4. Both substation and BESS compounds are under construction.

Scenario & Activity Description	Plant	BS5228 Reference
Borrow Pit Activity	Excavator Mounted Rock Breaker	C.9.12LAeq
	Tracked Semi Mobile Rock Crusher	C.9.15LAeq
	Tracked Excavator	C2.14LAeq
	Dozer	C2.10LAeq
	Face Shovel Wheeled Loader	C.9.7LAeq
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Concrete Batching Plant	Large Concrete Mixer	C.4.22LAeq
	Road Lorry (Full)	C.6.21LAmax
Crane Hardstands	Tracked Excavator	C2.14LAeq

Month 10 - Turbine hardstanding construction moves onto turbine 6, with turbine foundation excavations taking place at turbine 5 and turbine foundations pouring occurring at turbine 4. Both substation and BESS compounds are under construction.

Scenario & Activity Description	Plant	BS5228 Reference
	Dozer	C2.10LAeq
	Vibratory Roller	C5.20LAeq
	Dumper Truck to/from Borrow Pits	C.4.3LAmax
Turbine Foundation Excavation	Tracked Excavator	C2.14LAeq
	Dumper	C4.30LAmax
	Dozer	C2.10LAeq
Turbine Foundation Pouring	Concrete Mixer Truck	C4.20LAeq
	Truck Mounted Concrete Pump + Boom Arm	C4.29LAeq
	Tracked Excavator	C2.14LAeq
Substation Construction	Dozer	C2.10LAeq
	Dumper	C4.30LAmax
	Tracked Excavator	C2.14LAeq
	Road Lorry (Full)	C.6.21LAmax
	Concrete Mixer Truck + Truck Mounted Concrete Pump + Boom Arm	C.4.20LAeq

Month 10 - Turbine hardstanding construction moves onto turbine 6, with turbine foundation excavations taking place at turbine 5 and turbine foundations pouring occurring at turbine 4. Both substation and BESS compounds are under construction.

Scenario & Activity Description	Plant	BS5228 Reference
BESS Construction	Dozer	C2.10LAeq
	Dumper	C4.30LAmax
	Tracked Excavator	C2.14LAeq
	Road Lorry (Full)	C.6.21LAmax
	Concrete Mixer Truck + Truck Mounted Concrete Pump + Boom Arm	C.4.20LAeq

Month 11 - Turbine hardstanding construction moves onto turbine 7, with turbine foundation excavations taking place at turbine 6 and turbine foundations pouring occurring at turbine 5. Both substation and BESS compounds are under construction.

Scenario & Activity Description	Plant	BS5228 Reference
Borrow Pit Activity	Excavator Mounted Rock Breaker	C.9.12LAeq
	Tracked Semi Mobile Rock Crusher	C.9.15LAeq
	Tracked Excavator	C2.14LAeq
	Dozer	C2.10LAeq
	Face Shovel Wheeled Loader	C.9.7LAeq
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Concrete Batching Plant	Large Concrete Mixer	C.4.22LAeq
	Road Lorry (Full)	C.6.21LAmax
Crane Hardstands	Tracked Excavator	C2.14LAeq

Month 11 - Turbine hardstanding construction moves onto turbine 7, with turbine foundation excavations taking place at turbine 6 and turbine foundations pouring occurring at turbine 5. Both substation and BESS compounds are under construction.

Scenario & Activity Description	Plant	BS5228 Reference
	Dozer	C2.10LAeq
	Vibratory Roller	C5.20LAeq
	Dumper Truck to/from Borrow Pits	C.4.3LAmax
Turbine Foundation Excavation	Tracked Excavator	C2.14LAeq
	Dumper	C4.30LAmax
	Dozer	C2.10LAeq
Turbine Foundation Pouring	Concrete Mixer Truck	C4.20LAeq
	Truck Mounted Concrete Pump + Boom Arm	C4.29LAeq
	Tracked Excavator	C2.14LAeq
Substation Construction	Dozer	C2.10LAeq
	Dumper	C4.30LAmax
	Tracked Excavator	C2.14LAeq
	Road Lorry (Full)	C.6.21LAmax
	Concrete Mixer Truck + Truck Mounted Concrete Pump + Boom Arm	C.4.20LAeq

Month 11 - Turbine hardstanding construction moves onto turbine 7, with turbine foundation excavations taking place at turbine 6 and turbine foundations pouring occurring at turbine 5. Both substation and BESS compounds are under construction.

Scenario & Activity Description	Plant	BS5228 Reference
	Tracked Mobile Crane	C3.29LAeq
BESS Construction	Dozer	C2.10LAeq
	Dumper	C4.30LAmax
	Tracked Excavator	C2.14LAeq
	Road Lorry (Full)	C.6.21LAmax
	Concrete Mixer Truck + Truck Mounted Concrete Pump + Boom Arm	C.4.20LAeq
	Tracked Mobile Crane	C3.29LAeq

Month 12 - Turbine hardstanding construction moves onto turbine 8, with turbine foundation excavations taking place at turbine 7 and turbine foundations pouring occurring at turbine 6. Both substation and BESS compounds are under construction.

Scenario & Activity Description	Plant	BS5228 Reference
Borrow Pit Activity	Excavator Mounted Rock Breaker	C.9.12LAeq
	Tracked Semi Mobile Rock Crusher	C.9.15LAeq
	Tracked Excavator	C2.14LAeq
	Dozer	C2.10LAeq
	Face Shovel Wheeled Loader	C.9.7LAeq
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Concrete Batching Plant	Large Concrete Mixer	C.4.22LAeq
	Road Lorry (Full)	C.6.21LAmax
Crane Hardstands	Tracked Excavator	C2.14LAeq

Month 12 - Turbine hardstanding construction moves onto turbine 8, with turbine foundation excavations taking place at turbine 7 and turbine foundations pouring occurring at turbine 6. Both substation and BESS compounds are under construction.

Scenario & Activity Description	Plant	BS5228 Reference
	Dozer	C2.10LAeq
	Vibratory Roller	C5.20LAeq
	Dumper Truck to/from Borrow Pits	C.4.3LAmx
Turbine Foundation Excavation	Tracked Excavator	C2.14LAeq
	Dumper	C4.30LAmx
	Dozer	C2.10LAeq
Turbine Foundation Pouring	Concrete Mixer Truck	C4.20LAeq
	Truck Mounted Concrete Pump + Boom Arm	C4.29LAeq
	Tracked Excavator	C2.14LAeq
Substation Construction	Tracked Excavator	C2.14LAeq
	Tracked Mobile Crane	C3.29LAeq
BESS Construction	Dozer	C2.10LAeq
	Dumper	C4.30LAmx
	Tracked Excavator	C2.14LAeq

Month 12 - Turbine hardstanding construction moves onto turbine 8, with turbine foundation excavations taking place at turbine 7 and turbine foundations pouring occurring at turbine 6. Both substation and BESS compounds are under construction.

Scenario & Activity Description	Plant	BS5228 Reference
	Road Lorry (Full)	C.6.21LAmax
	Concrete Mixer Truck + Truck Mounted Concrete Pump + Boom Arm	C.4.20LAeq
	Tracked Mobile Crane	C3.29LAeq

Month 13 - Turbine hardstanding construction has finished, with turbine foundation excavation taking place at turbine 8 and turbine foundation pouring occurring at turbine 7. The Substation and BESS sites are still under construction however the borrow pit is no longer active.

Scenario & Activity Description	Plant	BS5228 Reference
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Concrete Batching Plant	Large Concrete Mixer	C.4.22LAeq
	Road Lorry (Full)	C.6.21LAmax
Turbine Foundation Excavation	Tracked Excavator	C2.14LAeq
	Dumper	C4.30LAmax
	Dozer	C2.10LAeq
Turbine Foundation Pouring	Concrete Mixer Truck	C4.20LAeq
	Truck Mounted Concrete Pump + Boom Arm	C4.29LAeq
	Tracked Excavator	C2.14LAeq

Month 13 - Turbine hardstanding construction has finished, with turbine foundation excavation taking place at turbine 8 and turbine foundation pouring occurring at turbine 7. The Substation and BESS sites are still under construction however the borrow pit is no longer active.

Scenario & Activity Description	Plant	BS5228 Reference
Substation Construction	Tracked Excavator	C2.14LAeq
	Tracked Mobile Crane	C3.29LAeq
BESS Construction	Tracked Excavator	C2.14LAeq
	Tracked Mobile Crane	C3.29LAeq

Month 14 - Turbine erection commences at T1.

Scenario & Activity Description	Plant	BS5228 Reference
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Concrete Batching Plant	Large Concrete Mixer	C.4.22LAeq
	Road Lorry (Full)	C.6.21LAmax
Substation Construction	Tracked Excavator	C2.14LAeq
	Tracked Mobile Crane	C3.29LAeq
BESS Construction	Tracked Excavator	C2.14LAeq
	Tracked Mobile Crane	C3.29LAeq
Turbine Delivery	Road Lorry (Full)	C.6.21LAmax

Month 15 - Turbine delivery and erection continues up to and including Month 22.

Scenario & Activity Description	Plant	BS5228 Reference
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Concrete Batching Plant	Large Concrete Mixer	C.4.22LAeq
	Road Lorry (Full)	C.6.21LAmax
Turbine Delivery	Road Lorry (Full)	C.6.21LAmax
Turbine Installation	Telescopic Handler	C2.35LAeq
	Tracked Mobile Crane	C.4.39LAeq
	Tracked Mobile Crane	C.4.50LAeq

Month 16 - Turbine delivery is heading towards turbine foundation 3 whilst turbine erection is happening at turbine 2.

Scenario & Activity Description	Plant	BS5228 Reference
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Turbine Delivery	Road Lorry (Full)	C.6.21LAmax
Turbine Installation	Telescopic Handler	C2.35LAeq
	Tracked Mobile Crane	C.4.39LAeq
	Tracked Mobile Crane	C.4.50LAeq

Month 17 – Turbine delivery is heading towards turbine foundation 4 whilst turbine erection is happening at turbine 3.

Scenario & Activity Description	Plant	BS5228 Reference
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Turbine Delivery	Road Lorry (Full)	C.6.21LAmax
Turbine Installation	Telescopic Handler	C2.35LAeq
	Tracked Mobile Crane	C.4.39LAeq
	Tracked Mobile Crane	C.4.50LAeq

Month 18 – Turbine delivery is heading towards turbine foundation 5 whilst turbine erection is happening at turbine 4.

Scenario & Activity Description	Plant	BS5228 Reference
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Turbine Delivery	Road Lorry (Full)	C.6.21LAmax
Turbine Installation	Telescopic Handler	C2.35LAeq
	Tracked Mobile Crane	C.4.39LAeq
	Tracked Mobile Crane	C.4.50LAeq

Month 19 – Turbine delivery is heading towards turbine foundation 6 whilst turbine erection is happening at turbine 5.

Scenario & Activity Description	Plant	BS5228 Reference
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Turbine Delivery	Road Lorry (Full)	C.6.21LAmax
Turbine Installation	Telescopic Handler	C2.35LAeq
	Tracked Mobile Crane	C.4.39LAeq
	Tracked Mobile Crane	C.4.50LAeq

Month 20 – Turbine delivery is heading towards turbine foundation 7 whilst turbine erection is happening at turbine 6.

Scenario & Activity Description	Plant	BS5228 Reference
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Turbine Delivery	Road Lorry (Full)	C.6.21LAmax
Turbine Installation	Telescopic Handler	C2.35LAeq
	Tracked Mobile Crane	C.4.39LAeq
	Tracked Mobile Crane	C.4.50LAeq

Month 21 – Turbine delivery is heading towards turbine foundation 8 whilst turbine erection is happening at turbine 7.

Scenario & Activity Description	Plant	BS5228 Reference
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Turbine Delivery	Road Lorry (Full)	C.6.21LAmax
Turbine Installation	Telescopic Handler	C2.35LAeq
	Tracked Mobile Crane	C.4.39LAeq
	Tracked Mobile Crane	C.4.50LAeq

Month 22 – Turbine deliveries have finished and the final turbine is being erected.

Scenario & Activity Description	Plant	BS5228 Reference
Construction Compound	Diesel Generator (Lights)	C4.86LAeq
	Diesel Generator	C4.76LAeq
	Telescopic Handler	C2.35LAeq
	Tracked Excavator	C2.14LAeq
	Articulated Dump Truck	C2.33LAmax
	Dozer	C2.10LAeq
Turbine Delivery	Road Lorry (Full)	C.6.21LAmax
Turbine Installation	Telescopic Handler	C2.35LAeq
	Tracked Mobile Crane	C.4.39LAeq
	Tracked Mobile Crane	C.4.50LAeq

Night-time Scenario

Scenario & Activity Description	Plant	BS5228 Reference
Generators at construction compound	Diesel generator & Diesel generator-lights	BS5228 ref C4.76 and C4.86 respectively