PCML Site, Selby

Energy From Waste
Noise Management Plan

Permit EPR/AP3526LV

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Revision	Date	Notes	Author	Checked	Approved
Ver.1-0	20-11-25	E4098	SB	ND	ND
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1 INTRODUCTION

1.1 This management plan has been produced to detail the noise sources, assumptions, and mitigation as provided within the associated noise assessment (Entran report E3490 v1-3, permit no. EPR/AP3526LV) for the PCML site in Selby.

1.2 The plan will be kept and maintained by the operator. The contents will be reviewed whenever changes are made to on-site activities that may give rise to variations in associated sound levels.

2 SITE LOCATION

2.1 The site is located on Aviation Road, within the Sherburn Industrial Area, and south of the B1222. The surrounding area is industrial, with the nearest residential receptors situated at least 400m away, beyond existing industrial units and adjacent to the B1222.

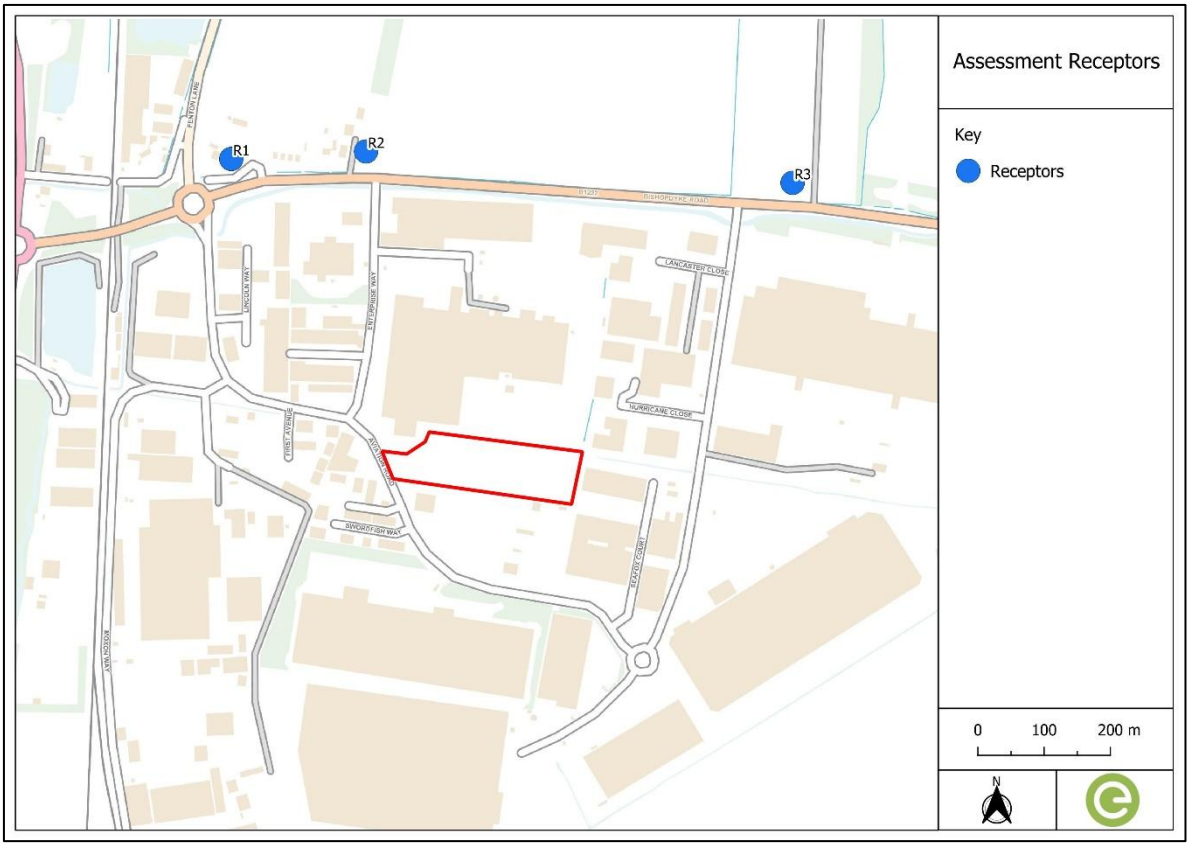
2.2 The nearest receptors and their respective distance from the nearest boundary are detailed in Table 1.

Table 1: Residential Receptors

ID	Distance from nearest boundary, m
R1	500
R2	430
R3	515

2.3 The residential receptors and site location are presented in Figure 1.

Figure 1: Site Location and Nearby Identified Receptors



2.4 The proposed activities are understood to be contained within the proposed buildings. External activities include HGVs and telehandler movements. HGVs would access and leave the site via the west boundary. The site layout is presented in Figure 2.

Figure 2: Site Layout

2.5 Background sound levels for assessment thresholds were identified to be 52 dB and 42 dB $L_{A90,T}$, respectively. The adopted background sound levels are presented in Table 2.

Table 2: Background Sound Levels

Period	Background Sound Level, $L_{A90,T}$, dB
Day	52
Night	41

3 RELEVANT GUIDANCE

National Policy: National Planning Policy Framework 2024

3.1 The National Planning Policy Framework (NPPF) sets out the Government's economic, environmental and social planning policies for England. It attempts to summarise in a single document all previous national planning policy advice. Taken together, these policies articulate the Government's vision of sustainable development, which should be interpreted and applied locally to meet local aspirations.

3.2 Under Section 15; Conserving and enhancing the natural environment, the following is stated in paragraph 187:

> *"Planning policies and decisions should contribute to and enhance the natural and local environment by: …*
>
> *preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability…"*

3.3 The NPPF goes on to state in paragraph 198 that:

> *"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:*
>
> *mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;*
>
> *identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason"*

British Standard BS 4142:2014+A1:2019 Methods for Rating and Assessing Industrial and Commercial Sound

3.4 British Standard BS 4142:2014+A1:2019 *Methods for Rating and Assessing Industrial and Commercial Sound* is intended to be used for the assessment of whether sound of industrial

and/or commercial nature is likely to give rise to complaints from people residing in nearby dwellings. BS 4142 states that such sound can include:

- sound from industrial and manufacturing processes;
- sound from fixed installations which comprise mechanical and electrical plant and equipment;
- sound from the loading and unloading of goods and materials at industrial and/or commercial premises; and,
- 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.

3.5 The procedure contained in BS 4142 for assessing the likelihood of complaints is to compare the measured or calculated sound level from the source in question, the *'specific sound level'*, at the assessment position with the background sound level. Where sound contains acoustic features, such as tonality, impulsivity or other noticeable characteristics then a correction is added to the specific sound to obtain the '*rating level*' that reflects the contextual setting of the site.

3.6 To assess the likelihood of complaints, the measured background sound level is subtracted from the rating level. BS 4142 states:

'Typically, the greater this difference, the greater the magnitude of the impact;

- *A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context;*
- *A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context; and,*
- *The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.'*

The Institute of Environmental Management & Assessment (IEMA) Guidelines for Environmental Noise Impact Assessment (2014)

3.7 The Institute of Environmental Management and Assessment (IEMA) have published the '*Guidelines for Environmental Noise Impact Assessment*'. The guidelines are applicable to

noise impact assessment for any scale of development proposal, including core principles to achieve effectively integration with the EIA, and provide advice on the issues that need to be considered in a noise impact assessment and whether the appropriate conclusions are being reached. The factors include:

- The appropriateness of the noise parameters used for the situation;
- The reference time period used in making the assessment;
- The level, character and frequency content of the noise sources under investigation; and,
- How the predicted noise levels relate to relevant Standards and guidelines.

3.8 The guidelines also recommend that the assessor should determine the degree of impact based on evidence derived from the assessment.

The Professional Practice Guidance on Planning and Noise (2017)

3.9 The '*Professional Practice Guidance on Planning and Noise'* (ProPG) was produced by a Working Group consisting of representatives of the Association of Noise Consultants (ANC), Institute of Acoustics (IOA) and Chartered Institute of Environmental Health (CIEH) to provide acoustical practitioners with guidance on the management of noise within the planning system in England.

3.10 The reparation of the ProPG acknowledges and reflects the Government's overarching NPSE, the NPPF and Planning Practice Guidance (including PPG-Noise), as well as other authoritative sources of guidance. It provides advice for Local Planning Authorities (LPAs) and developers, and their respective professional advisers which complements Government planning and noise policy and guidance and, in particular, aims to:

- advocate full consideration of the acoustic environment from the earliest possible stage of the development control process;
- encourage the process of good acoustic design in and around new residential developments;
- outline what should be taken into account in deciding planning applications for new noise-sensitive developments;
- promote appropriate noise exposure standards; and
- assist the delivery of sustainable development.

4 NOISE SOURCES AND PROCESSES

Noise Impact Assessment Conclusion

4.1 The noise impact assessment was undertaken using information and source data provided by the applicant and from representative sources to calculate the likely specific and rating sound level at the nearest receptors.

4.2 Based on the information as detailed within the NIA, the rating levels are calculated to fall below the background sound levels. BS 4142 indicates that where there is no excess of the rating over the background sound level there is a low likelihood of adverse impact.

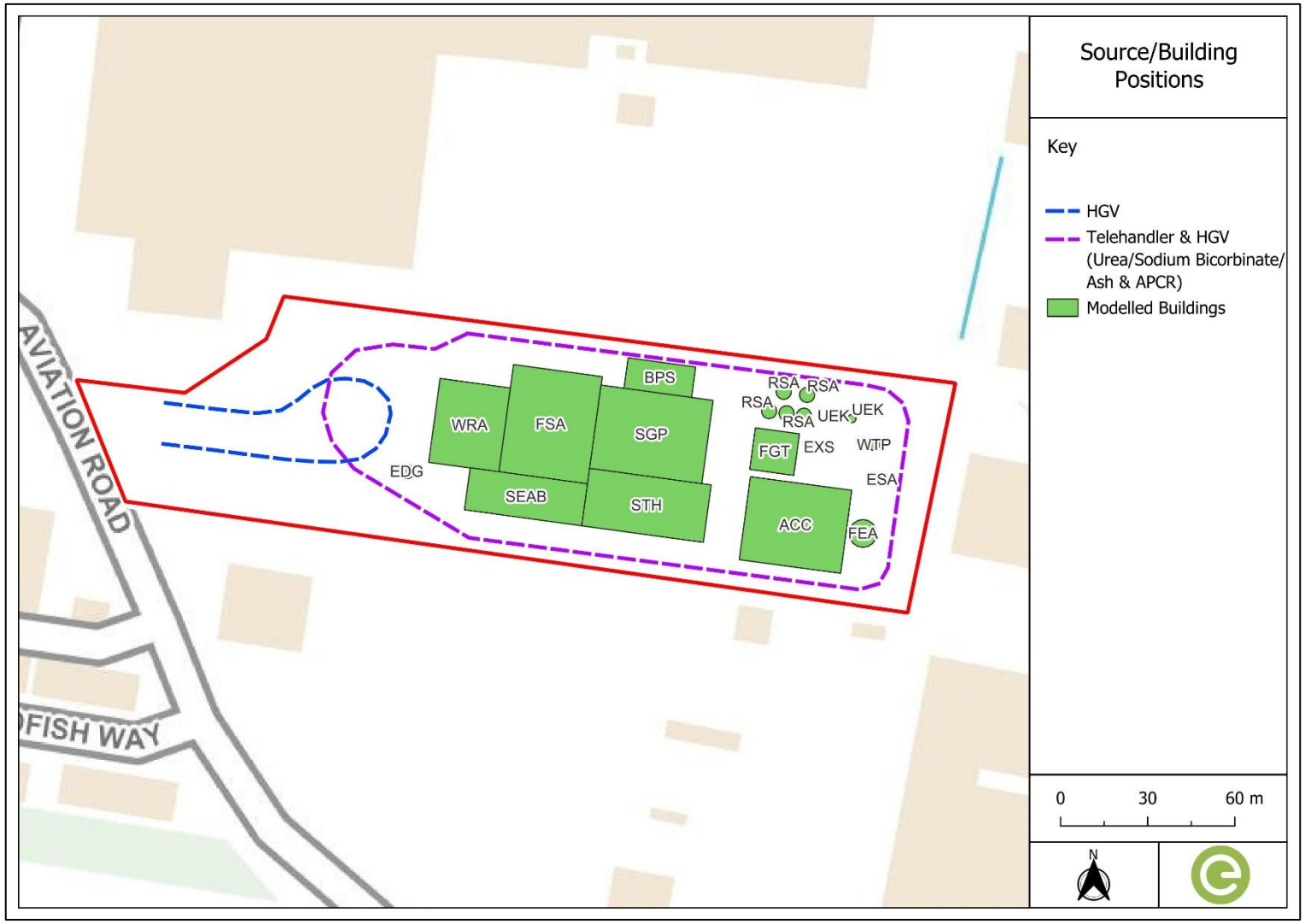
4.3 The assessment was undertaken based on the information provided and the associated calculations as detailed within the NIA. The calculations indicate that significant impacts are unlikely.

Noise Sources

4.4 The proposed facility will operate during the BS 4142 reference time periods, which are given as 07:00 – 23:00 for the daytime and 23:00 – 07:00 for night-time periods. The locations of proposed buildings and sources are presented in Figure 3.

4.5 It is understood that building cladding will be Kingspan KS1000 cladding system or similar. Octave band data for the roof and façade construction is presented in Appendix B2.

Figure 3: Source Locations



4.6 Details of plant items, including quantities, locations, and expected use times, are presented in Table 3. Octave data for the proposed sound generating items is presented in Table B1 of Appendix B.

Table 3: Plant List

Plant Item	Quantity	Location	% On-Time
Boiler Startup Vent	1	SGP Building	1
LPPH vent	1	ACC Building	100
Dearator Vent	1	SPG Building	100
ACC fan	6	ACC Building	100
Auxiliary Cooler	1	SEAB Building	100
Steam Ejector	1	ACC Building	100
Condensate Pump	1	ACC Building	100
Turbine Bypass Valve	1	ACC Building	100
ID fan Stack Outlet	1	EXS Building	100
ID fan Motor	1	EXS Building	100
Ash Blower	1	SGP Building	100
Screw Conveyor	1	SGP Building	100
Lime Blower	1	FGT Building	100
Recirc Blower	1	FGT Building	100
PAC blower	1	FGT Building	100
Steam Ejector Typical	1	ACC Building	100
Vacuum Unit	1	ACC Building	100
HGV (WRA)	4	External	10
HGV unloading (WRA)	4	WRA Building	100
Mobile Telehandler	1	External	10
Gantry Crane	1	WRA Building	100
Feed Chute	1	WRA Building	100
MHPS fin-fan cooler	1	SEAB Building	100
Boiler (HRSG)	1	SGP Building	100
Boiler Feed Pumps	1	SGP Building	100
Grate Cooling system pumps	1	SGP Building	100
FD Fan, Primary, Case and Motor	1	SGP Building	100
FD Fan, Primary, Intake	1	SGP Building	100
FD Fan, Secondary, Intake	1	SGP Building	100
FD Fan Burner	1	SGP Building	100
Spray attemperators/Spray Control Valves	1	SGP Building	100
Bottom Ash/Slag Conveyor	1	SGP Building	100
Boiler Fly Ash Conveyor	1	SGP Building	100
Economiser Ash Conveyor	1	SGP Building	100
Bottom Ash Bucket Loader	1	BPS Building	100
Knocking/Rapping System	1	SGP Building	100
Compressor	3	SEAB Building	100
Turbine	1	STH Building	100
HGV (Urea/Sodium Bicorbinate/Ash & APCR)	1	External	10

5 CONTROL MEASURES AND PROCESS MONITORING

Best Available Techniques (BAT)

5.1 There are no identified impacts at the off-site residential receptors and therefore, based on the calculations as presented within the NIA, no further mitigation is required at the site.

5.2 However, the facility will comply with the Best Available Techniques (BAT) for noise control as set out in the *Waste Incineration BAT Conclusions (Commission Implementing Decision (EU) 2019/2010)*.

5.3 Techniques that will be implemented and maintained by the site include:

- Appropriate location of equipment and buildings
- Operational measures (e.g., restricted hours, closing doors)
- Use of low-noise equipment
- Noise control equipment (e.g., silencers, acoustic enclosures)

5.4 The measures are detailed below.

Appropriate location of equipment and buildings

5.5 Mitigation might be considered as inherent in the design, where suitable specification of equipment and building materials affects the sound emitted from the proposed buildings.

Operational Measures

5.6 On-site vehicles within the control of the site will be fitted with white noise reversing alarms, such that the operation of the site does not give rose to regular tonal noise from reversing vehicles. Vehicles shall be switched off when idle and shall not sound horns or rev engines unless necessary.

Use of low-noise equipment

5.7 Plant items shall be specified to ensure that sound power levels are as low as practicable. Consideration will be made to ensure emitted sound levels do not exceed those provided within the values presented within Table 3. Where possible, items will be specified to attain source levels lower than those in Table 3.

Noise control equipment

5.8 As far as practicable, high sound level plant items will be enclosed and silencers fitted where appropriate. Potential further mitigation options will be sought from the manufacturer. Where the noise levels in Table 3 cannot be attained further assessment will be undertaken to ensure that calculated noise levels fall below those in Table 2.

5.9 Plant items shall be maintained within the manufacturer requirements in order to ensure effective and efficient operation, reducing the likelihood of noise due to plant item degradation.

Monitoring of Mitigation

5.10 Site operatives will be responsible for maintenance and training to ensure the typical mitigation described above is enforced.

5.11 Where façade details change or the specified plant sound power level increases, supplementary noise assessments will be undertaken to ensure that the likelihood of significant effects remains minimal. Where new effects are identified mitigation will be considered in order to reduce noise levels to below the background sound level at the identified sensitive receptors.

5.12 Where breaches of the mitigation measures are identified staff will be retrained as appropriate.

5.13 Where plant items/equipment need replacing the new equipment will have sound levels equal to or lower than the equipment being replaced.

6 COMPLAINTS REPORTING

6.1 Company contact information for reporting of complaints has not yet been established. This document will be updated to include contact information when available.

6.2 Complaints raised to the site will be recorded by site and investigated to identify the potential source. Where a potential source is identified, the site will endeavour to commence remedial action within 7 days.

6.3 Following reasonable remedial action from the site, noise monitoring will be undertaken in the vicinity of the affected receptor to identify the nature and level of sound from the site.

6.4 Where sound from the site is identified to be lower than the identified thresholds, it can be considered that the complaint has been resolved.

6.5 The site will provide written response to describe the steps taken and remedial action (as necessary).

APPENDIX A – INTRODUCTION TO NOISE

In order to assist the understanding of acoustic terminology and the relative change in noise, the following background information is provided.

The human ear can detect a very wide range of pressure fluctuations, which are perceived as sound. In order to express these fluctuations in a manageable way, a logarithmic scale called the decibel, or dB scale is used. The decibel scale typically ranges from 0 dB (the threshold of hearing) to over 120 dB.

The ear is less sensitive to some frequencies than to others. The A-weighting scale is used to approximate the frequency response of the ear. Levels weighted using this scale are commonly identified by the notation dB(A).

A noise impact on a community is deemed to occur when a new noise is introduced that is out of character with the area, or when a significant increase above the pre-existing ambient noise level occurs. For levels of noise that vary with time, it is necessary to employ a statistical index that allows for this variation. These statistical indices are expressed as the sound level that is exceeded for a percentage of the time period of interest.

In the UK, traffic noise is measured as the L_{A10}, the noise level exceeded for 10% of the measurement period. The L_{A90} is the level exceeded for 90% of the time and has been adopted to represent the background noise level in the absence of discrete events. An alternative way of assessing the time varying noise levels is to use the equivalent continuous sound level, L_{Aeq}. This is a notional steady level that would, over a given period of time, deliver the same sound energy as the actual fluctuating sound.

To put these quantities into context, where a receiver is predominantly affected by continuous flows of road traffic, a doubling or halving of the flows would result in a just perceptible change of 3dB, while an increase of more than 25%, or a decrease of more than 20%, in traffic flows represent changes of 1dB in traffic noise levels (assuming no alteration in the mix of traffic or flow speeds).

Note that the time constant and the period of the noise measurement should be specified. For example, BS 4142 specifies specific sound is assessed over periods of 1 hour during the day and 15 minutes during the night. The noise measurement should be recorded using a ‘FAST’ time response equivalent to 0.125 ms.

Table A1: Glossary of Terms

Term	Definition
Decibel (dB)	A scale for comparing the ratios of two quantities, including sound pressure and sound power. The difference in level between two sounds s1 and s2 is given by 20 log10 (s1/s2). The decibel can also be used to measure absolute quantities by specifying a reference value that fixes one point on the scale. For sound pressure, the reference value is 20μPa.
A-weighting, dB(A)	The unit of sound level, weighted according to the A-scale, which takes into account the increased sensitivity of the human ear at some frequencies.
Noise Level Indices	Noise levels usually fluctuate over time, so it is often necessary to consider an average or statistical noise level. This can be done in several ways, so a number of different noise indices have been defined, according to how the averaging or statistics are carried out.
$L_{eq,T}$	A noise level index called the equivalent continuous noise level over the time period T. This is the level of a notional steady sound that would contain the same amount of sound energy as the actual, possibly fluctuating, sound that was recorded.
$L_{max,F}$	A noise level index defined as the maximum noise level during the period T. L_{max} is sometimes used for the assessment of occasional loud noises, which may have little effect on the overall L_{eq} noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.
$L_{90,T}$	A noise level index. The noise level exceeded for 90% of the time over the period T. L_{90} can be considered to be the 'average minimum' noise level and is often used to describe the background noise.
Free-Field	Far from the presence of sound reflecting objects (except the ground), usually taken to mean at least 3.5m
Ambient Noise Level	The totally encompassing sound in a given situation at a given time, usually composed of a sound from many sources both distant and near ($L_{Aeq,T}$).
Residual Noise Level	The ambient noise remaining at a given position in a given situation when specified sources are suppressed to a degree such that they do not contribute to the ambient noise level ($L_{Aeq,T}$)
Specific Noise Level	The equivalent continuous A-weighted sound pressure level at the assessment position produced by the specific noise source (the noise source under investigation) over a given time interval ($L_{Aeq,T}$)
Rating Noise Level	The specific noise level plus any adjustment for the characteristic features of the noise ($L_{Ar,Tr}$).

APPENDIX B – TABLES

Appendix B1: Octave Band Source Sound Power Levels

Plant/Item	Sound Power Level, dB L_{WA} per Octave Band, Hz								
	31.5	63	125	250	500	1000	2000	4000	8000
Boiler Startup Vent	120.9	125.9	126.9	119.9	118.9	115.9	115.9	114.9	109.9
LPPH vent	110.9	115.9	116.9	109.9	108.9	105.9	105.9	104.9	99.9
Dearator Vent	105.9	110.9	111.9	104.9	103.9	100.9	100.9	99.9	94.9
ACC fan	114.7	109.7	104.7	110.7	94.7	89.7	84.7	78.7	75.7
Auxiliary Cooler	97.4	97.4	98.4	99.4	95.4	92.4	89.4	84.4	78.4
Steam Ejector	91.8	90.7	95.4	94.7	94.2	90.6	95.5	96.1	99.6
Condensate Pump	81.8	80.7	85.4	84.7	84.2	80.6	85.5	86.1	89.6
Turbine Bypass Valve	106.8	105.7	110.4	109.7	109.2	105.6	110.5	111.1	114.6
ID fan Stack Outlet	134.4	134.4	124.4	116.4	98.4	79.4	88.4	71.4	67.4
ID fan Motor	91.8	90.7	95.4	94.7	94.2	90.6	95.5	96.1	99.6
Ash Blower	108.8	106.3	106.3	103.1	101.2	96.6	94.4	89.6	84.0
Screw Conveyor	97.4	100.9	95.6	92.7	90.7	87.9	83.9	79.2	74.1
Lime Blower	108.8	106.3	106.3	103.1	101.2	96.6	94.4	89.6	84.0
Recirc Blower	103.8	101.3	101.3	98.1	96.2	91.6	89.4	84.6	79.0
PAC blower	103.8	101.3	101.3	98.1	96.2	91.6	89.4	84.6	79.0
Steam Ejector Typical	91.8	90.7	95.4	94.7	94.2	90.6	95.5	96.1	99.6
Vacuum Unit	86.8	85.7	90.4	89.7	89.2	85.6	90.5	91.1	94.6
HGV	88.9	88.9	93.9	93.9	93.9	89.9	88.9	83.9	81.9
HGV unloading	109.0	109.0	103.0	95.0	95.0	95.0	94.0	91.0	88.0
Mobile Telehandler	105.0	105.0	95.0	86.0	88.0	90.0	87.0	79.0	72.0
Gantry Crane	98.0	98.0	94.0	89.0	81.0	82.0	81.0	74.0	68.0
Feed Chute	92.0	92.0	91.0	90.0	86.0	89.0	86.0	80.0	63.0
MHPS fin-fan cooler	115.0	110.0	105.0	101.0	101.5	98.5	93.0	86.5	78.5

Plant/Item	Sound Power Level, dB L_{WA} per Octave Band, Hz								
	31.5	63	125	250	500	1000	2000	4000	8000
Boiler (HRSG)	110.0	109.0	105.0	101.0	106.0	102.0	101.0	98.0	92.0
Boiler Feed Pumps	93.1	91.1	94.8	87.3	88.7	93.0	95.9	87.0	101.7
Grate Cooling system pumps	88.1	86.1	89.8	82.3	83.7	88.0	90.9	82.0	96.7
FD Fan, Primary, Case and Motor	108.9	108.9	108.9	108.9	105.9	102.9	98.9	90.9	82.9
FD Fan, Primary, Intake	103.9	103.9	103.9	103.9	100.9	97.9	93.9	85.9	77.9
FD Fan, Secondary, Intake	103.9	103.9	103.9	103.9	100.9	97.9	93.9	85.9	77.9
FD Fan Burner	98.9	98.9	98.9	98.9	95.9	92.9	88.9	80.9	72.9
Spray attemperators/Spray Control Valves	103.0	103.0	99.0	95.0	93.0	90.0	90.0	92.0	87.0
Bottom Ash/Slag Conveyor	100.4	103.9	98.6	95.7	93.7	90.9	86.9	82.2	77.1
Boiler Fly Ash Conveyor	100.4	103.9	98.6	95.7	93.7	90.9	86.9	82.2	77.1
Economiser Ash Conveyor	100.4	103.9	98.6	95.7	93.7	90.9	86.9	82.2	77.1
Bottom Ash Bucket Loader	91.0	91.0	97.0	105.0	89.0	89.0	86.0	79.0	73.0
Knocking/Rapping System	113.0	113.0	109.0	105.0	103.0	100.0	100.0	102.0	97.0
Compressor	91.8	90.7	95.4	94.7	94.2	90.6	95.5	96.1	99.6
Turbine	113.0	108.0	105.0	106.0	103.0	101.0	105.0	109.0	105.0

Appendix B2: Façade Material Details

Element	Item	Octave Band Centre Frequency								
		31.5Hz	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
SRI										
Kingspan Cladding	Kingspan 1000Rw	20	20	18	20	24	20	29	39	47
Absorption Coefficient, α										
Kingspan Cladding	Kingspan 1000Rw	0.15	0.15	0.45	0.7	0.85	0.9	0.9	0.75	0.6
Concrete	Rough Concrete	0.01	0.01	0.02	0.03	0.03	0.03	0.04	0.07	0.07