

Project: Peaking Plant Facility – Saltholme North
Title: Noise Assessment – Impact on Birdlife
Client: Statera Energy Limited
Date: 13 May 2020

Introduction

- 1.1 This short report provides a revision to the Noise Assessment and Cumulative Noise Assessment sections of report JAT11291_SaltholmeNorth_Rev0_20200214¹, which itself builds upon the report previously submitted to the local authority JAT10500_Saltholme North_Rev1_20180904². The assessments have been updated to include an assessment of the impact of the PPF site on the adjacent Special Protection Area (SPA) Teesmouth and Cleveland Coast. Since the submission in 2018, additional areas surrounding the proposed PPF location have been classified as an SPA and this report will assess the impact on the closest area.

Ecological Receptors

- 1.2 The proposed PPF is located approximately 200 m north of the northern boundary of the SPA site, an area of 1000 acres north of the River Tees. The bird species present on the site have the potential to be impacted by noise emitted by the PPF.
- 1.3 Very loud noise and percussive noises have the potential to disturb birds, increasing time spent alert and in flight, reducing the available time to feed and increasing mortality. However, the operation of the PPF will emit a broadband and continuous noise and will not be percussive in nature, as discussed in paragraph 6.5 of the main report.
- 1.4 The table below provides the predicted specific noise level from the PPF at the boundary of the SPA. This compares this level with the Institute of Estuarine and Coastal Studies (IECS)³ noise impact criteria for construction noise on birds, where the lowest criterion is pertinent to ‘regular construction noise’, and as such is considered continuous noise, a suitable proxy for the PPF site.

Table 1: Predicted Sound Level at the Boundary of the Ecological Site

Location	Predicted Specific Sound Level, dB(A)	IEC Criterion for Continuous Noise (indicative of no impact), dB(A)
SPA, Northern Boundary of extension	49	50

¹ Report titled ‘Noise Assessment for Peaking Plant Facility – Saltholme North, Middlesbrough’. Issued by RPS on 14th February 2020

² Report titled ‘Noise Assessment for Peaking Plant Facility – Saltholme North, Middlesbrough’. Issued by RPS on 4th September 2018

³ Report titled “Construction and Waterfowl: Defining Sensitivity, Response, Impacts and Guidance”, by the Institute of Estuarine and Coastal Studies, University of Hull, February 2009.

- 1.5 Based on the predicted specific sound levels at the ecological receptor, there is unlikely to be any impact. Figure 1 below shows a representation of the sound levels in the vicinity of the ecological receptor, denoted by the blue hatched area.

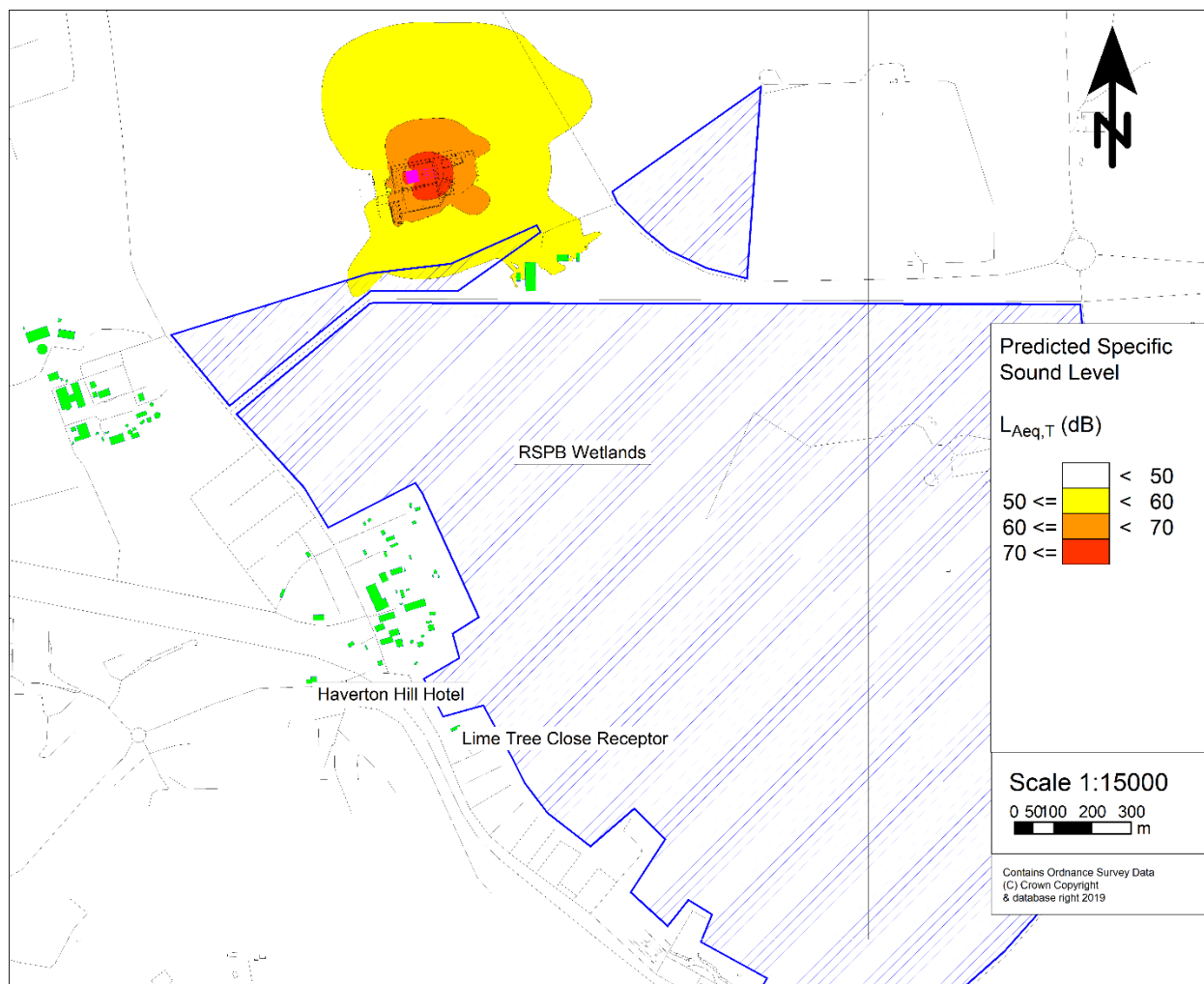


Figure 1: Predicted Sound Levels across the SPA

- 1.6 The spectral shape of the sound level is presented in Table 2 and shown graphically Figure 2.

Table 2: Predicted Octave Band Sound Level at the Boundary of the Ecological Site

Location	Predicted Overall Sound Level, dB(A)	Linear Octave Band Sound Levels, dB						
		63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz
SPA	49	62	51	47	46	45	42	32

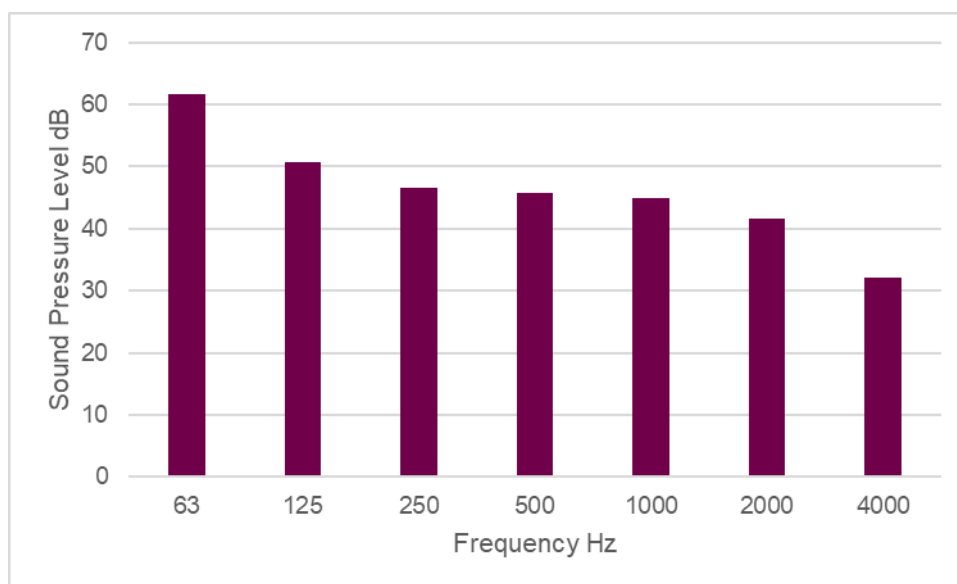


Figure 2: Linear Octave Band Spectrum

- 1.7 As can be seen from Table 2 and Figure 2, sound emissions from the proposed PPF contain more energy in the lower frequency bands (<1 kHz). The potential impact on birds is therefore likely to be lower than would be suggested by the overall dBA value due to the hearing ranges of birds being mostly limited to the high frequencies. In addition, the sound source is not considered to be impulsive and, as such, it is unlikely that sound from the site would lead to a startle response.
- 1.8 Based on the above, it is considered that the operation of the PPF will not result in a significant impact on nesting birds within the north-west edge of the SPA. Although this number is larger than the 40 dB reported in the original submission in 2018, due both to changes within the proposal itself and to the classification of land closer to the PPF as an SPA, the number still falls below the IEC criterion and therefore has no additional impact.

Cumulative Assessment

- 1.9 The PPF Saltholme North has also been assessed in conjunction with the neighbouring proposed gas-fired PPF 'Saltholme South'. The sound power data used to model the adjacent facility is identical to that used to model Saltholme North, as discussed in the main report.
- 1.10 Table 3 below provides the predicted specific noise level from both plants operating simultaneously, at the northern boundary of the SPA. Figure 3 shows a representation of the cumulative sound levels in the vicinity of the ecological receptor.

Table 3: Predicted Cumulative Sound Level at the Boundary of the Ecological Site

Location	Predicted Cumulative Specific Sound Level, dB(A)	IEC Criterion for Continuous Noise (indicative of no impact), dB(A)
SPA, Northern Boundary of extension	53	50

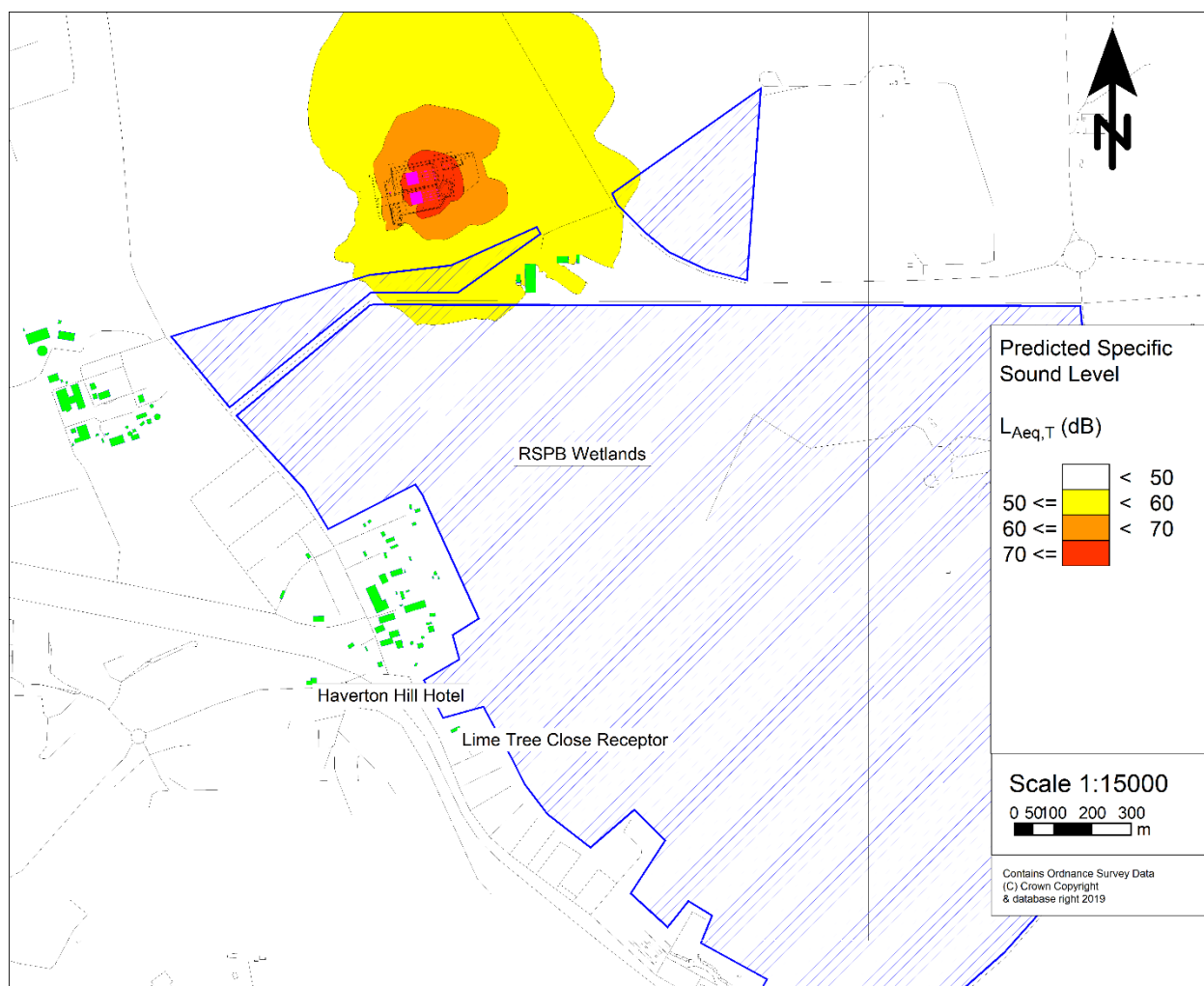


Figure 3: Cumulative Predicted Sound Levels across the SPA

- 1.11 Based on the predicted specific sound levels at the boundary of the ecological receptors, there is potential for a low impact to birds along the boundary. However, as discussed above, birds are more sensitive to the high frequencies, as opposed to the low frequencies which are present here.

Table 4: Predicted Cumulative Octave Band Sound Level at the Boundary of the Ecological Site

Location	Predicted Cumulative Overall Sound Level, dB(A)	Linear Octave Band Sound Levels, dB						
		63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz
SPA	53	66	55	50	49	48	45	36

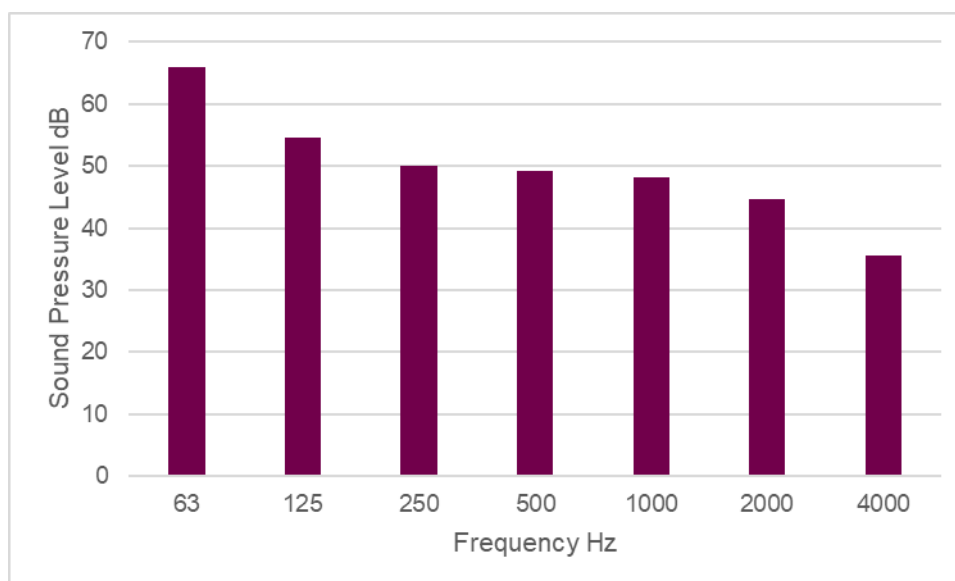


Figure 4: Linear Octave Band Spectrum

- 1.12 IECS report also goes on to state that “birds were also seen to, in general, accept a wide range of steady state noise level from between 55 dB(A) to 85 dB(A)”. On the basis of this, and the above, it is not considered likely that the PPF facility will result in significant impacts to ecological receptors. Although this number is larger than the 44 dB reported in the original submission in 2018, it has been shown that the levels incident on the new closer portion of the SPA extension are unlikely to cause significant impacts, and therefore has no additional impact above that presented in the original submission.

Summary & Conclusions

- 1.13 Although noise levels at the SPA boundary are slightly higher than presented in the previously consented report, noise from the site does not present a significant risk to birds over and above what was presented previously.
- 1.14 Based on the results of this revised assessment into the impact of noise from the proposed PPF on ecological receptors in the SPA Teesmouth and Cleveland Coast, it is concluded that operation of the PPF would not result in adverse impacts.