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Tees CCPP Project

The Tees Combined Cycle Power Plant Project
Land at the Wilton International Site,
Teesside

HRA Addendum

Applicant: Sembcorp Utilities UK
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1 IMPLICATIONS OF CHANGES TO THE EUROPEAN DESIGNATIONS ON THE HABITATS REGULATIONS ASSESSMENT (HRA)

1.1 INTRODUCTION

1.1 An application for a Development Consent Order (DCO) for the Proposed Tees CCPP Project was submitted in November 2017. It was accompanied by a report containing information to inform an HRA. On the 5th September 2018 (*ie* post the application submission and the DCO hearing), The Planning Inspectorate advised the applicant of formal changes that have now been made to European sites assessed as part of the HRA, and for which the consultation process initiated by Natural England (NE) is still ongoing (https://consult.defra.gov.uk/natural-england-marine/teesmouth-and-cleveland-coast-potential-sp/). The Planning Inspectorate has requested that the HRA assessment is reviewed in light of these changes.

1.2 The changes in the European sites comprise (see also maps as part of public consultation information in link above):

- an extension to the existing Teesmouth and Cleveland Coast SPA – the extension is called the Teesmouth and Cleveland Coast potential SPA (pSPA); and
- an extension to the formal designation of the Teesmouth and Cleveland Coast Ramsar site – the extension is known as the Teesmouth and Cleveland Coast proposed Ramsar site (which will not extend beyond the boundaries of the pSPA and hence the effects are considered as part of the pSPA).

1.3 In addition to the bird species already considered in the HRA assessment to date, the pSPA adds ruff, and five additional species as part of the waterbird assemblage (gadwall, European wigeon, northern lapwing, herring gull, black-headed gull). Supporting habitat includes sand dunes and saltmarsh.

1.4 Although not part of the HRA, this addendum has also considered the changes to the local Sites of Special Scientific Interest (SSSIs), and specifically the creation of a consolidated Teesmouth and Cleveland Coast SSSI. The Teesmouth and Cleveland Coast SSSI has amalgamated all of the component SSSIs of the Teesmouth and Cleveland Coast pSPA/Ramsar, except for a small section of Durham Coast SSSI, into a single SSSI following guidance that indicates *"it would be most effective if all of the component SSSI supporting a SPA were amalgamated into a single SSSI"* (see Section 3.1 of http://jncc.defra.gov.uk/pdf/SSSI_Chptr17_Birds2015June.pdf).

1.5 This addendum assesses only the effects of air pollutants from the proposed development on the extensions to the European sites (and the specific interest

features described above) and the consolidated SSSI, and whether they result in any changes to the findings of the current assessment in the No Significant Effects Report (NSER). No other impacts from the proposed development have pathways that could lead to a likely significant effect.

1.2 NITROGEN DEPOSITION

1.2.1 Extension Areas

1.6 The maximum deposited nitrogen load from the project, taking into account the extension areas of the pSPA, has been compared with the most stringent critical loads of any of the habitat types supporting the bird species present (8 -10 kg N/ha/yr for supralittoral sediment / sand dunes), and no likely significant effect predicted (see *Table 1*).

Table 1 ***pSPA Nutrient Nitrogen Deposition***

Habitat	Back-ground Load	CL		N Dep KgN/ ha/yr	PEC Dep KgN/ha/yr		N Dep KgN/ha/yr		Potential Significant Effect (Y/N)
					%CL Min	%CL Max	%CL Min	%CL Max	
Supralittoral sediment	18.48	8	10	0.0539	232%	185%	0.67%	0.54%	N

1.2.2 New Supporting Habitats

1.7 Two new supporting habitats have been included (sand dunes and saltmarsh), that have critical loads of 8 -10 kg N/ha/yr (worst case for sand dunes) and 20-30 kg N/ha/yr (for saltmarsh). The predicted nitrogen deposition loads arising from the Project have been assessed against the similar critical loads for other habitat types as part of the existing assessment and no likely significant effects were identified. Hence no likely significant effects are predicted on sand dunes and saltmarsh.

1.2.3 Additional pSPA Bird Species

1.8 The pSPA includes the six new bird species that are listed below, along with their sensitivity to nitrogen deposition based on information from APIS (accessed via http://www.apis.ac.uk/search-pollutant-impacts):

- *ruff* – **not sensitive**;
- *gadwall* – **site specific** and critical loads for supporting broad habitat not defined (standing open water and canals);
- *European wigeon* – **sensitive**, but effects can be negative (on supporting broad habitat type) or positive (on food supply) – critical loads for

supporting broad habitat types are 20-30 kg N/ha/yr (neutral grassland and littoral sediment), or not defined (standing open water and canals);

- *northern lapwing* – **sensitive** to effects on some supporting habitats, but critical loads are 20-30 kg N/ha/yr (neutral grassland and littoral sediment);
- *herring gull* – **not sensitive**; and
- *black-headed gull* – **not sensitive**.

1.9 Three bird species ruff, herring and black headed gulls are not sensitive to changes in nitrogen. The supporting habitats of the remaining three species (gadwall, European wigeon and northern lapwing) have either critical loads against which the loads of deposited nitrogen have been assessed already and found to have no likely significant effects, or are water habitats that are influenced predominantly by water based loadings rather than inputs from the atmosphere and again no likely significant effects are predicted.

1.10 Given the above, no likely significant effects are predicted due to nitrogen deposition on the additional species of the pSPA.

1.3 ACID DEPOSITION

1.3.1 Extension Areas

1.11 The maximum deposited acid load from the project, taking into account the extension areas of the pSPA, has been compared with the most stringent low ranges of the critical load for any of the habitat types supporting the birds present, and no likely significant effect predicted (see *Table 2*).

Table 2 pSPA Acid Deposition

Habitat	CL (keq ha^{-1} yr^{-1})			Baseline (keq ha^{-1} yr^{-1})		N total	PCtotal as % of CL total Low Range	PECtotal as % of CL total Low Range	Potential Significant Effect (Y/N) Low Range
	MaxS	MinN	MaxN	S	N				
Supralittoral sediment	1.56	0.223	1.998	0.48	1.38	0.00384	0.19%	93%	N

1.3.2 New Supporting Habitats

1.12 Coastal saltmarshes are tidal and are repeatedly flooded / flushed with saline, brackish water. Hence the effects of acid deposition are likely to be small. Sand dune systems in the UK are typically calcareous, well buffered and low in heavy metals and therefore, tolerant of acid deposition.

1.13 No likely significant effects are predicted on either of these habitat types from acid deposition.

1.3.3 Additional pSPA Bird Species

1.14 None of the additional bird species are sensitive to the effects of acid deposition on their supporting habitat (accessed via http://www.apis.ac.uk/search-pollutant-impacts). No likely significant effects are predicted.

1.4 NOX LEVELS

1.15 The maximum NOx levels from the Project, taking into account the extension areas of the pSPA, have been compared with the critical level (same for all habitat types), and no likely significant effects are predicted (see *Tables 3* and *4*).

Table 3 pSPA NO_x Annual Mean

NO_x PC - annual average (µg m^{-3})	EAL (µg m^{-3})	PC/EAL	Background (µg m^{-3})	Max PEC (µg m^{-3})	Max PEC % of EAL	Potential Significant Effect (Y/N)
0.374	30	1.25%	19.3	19.7	66%	N

1.16 Although the annual mean (PC) for NOx exceeds 1% of the critical level in one small area of the pSPA, the background levels are sufficiently low at this location that the annual mean NOx PEC is less than 70% of the critical level in any event, and therefore below the threshold at which significant effects could potentially occur.

Table 4 pSPA NO_x 24 Hour Mean

NO_x PC - 24 hour average (µg m^{-3})	EAL (µg m^{-3})	PC/EAL	Background (µg m^{-3})	Max PEC (µg m^{-3})	Max PEC % of EAL	Potential Significant Effect (Y/N)
5.45	75	7.3%	38.6	44.1	59%	N

1.5 CONSOLIDATED TEESMOUTH AND CLEVELAND COAST SSSI

1.17 The consolidation of the SSSI draws together existing SSSIs that underpin the SPA/pSPA. The habitat types of importance are coastal habitats (sand dunes and saltmarsh). The effects of the air pollutants from the Project on these habitat types has already been assessed as part of the assessment on the pSPA and no significant effects were predicted.

1.18 The maximum NO_x levels (process contribution) at the consolidated SSSI are (0.282 µg m^{-3} (annual) / 0.94% of CL and 4.21 µg m^{-3} (24 hr) 5.6% of CL) and no likely significant effects are predicted.

1.6 IN-COMBINATION

1.19 Likely significant effects in-combination are not anticipated. The Project's PCs at the pSPA based on the latest information are below 1% of the critical load/level for most of the pollutant effects across the vast majority of the pSPA. Only the annual mean (PC) for NOx exceeds 1% of the critical level in one small area of the pSPA. The background levels are sufficiently low at this location that the annual mean NOx PEC is less than 70% of the critical level in any event, and therefore the potential project effects are still not significant. The findings due to the changes in the European sites do not therefore alter the rationale to conclude no likely significant effect in-combination, as set out in the original HRA and subsequent post submission clarifications.

1.7 SUMMARY

1.20 The extension to the Teesmouth and Cleveland Coast pSPA/Ramsar and the consolidated Teesmouth and Cleveland SSSI do not result in any likely significant effects from the Tees CCPP Project alone, or in-combination, and the overall findings of the existing HRA remain unchanged.