

# The Keadby 3 Low Carbon Gas Power Station Project

**PINS Ref: EN010114**

## **The Keadby 3 Low-Carbon Gas Power Station Order**

**Land at and in the vicinity of the Keadby Power Station site,  
Trentside, Keadby, North Lincolnshire**

## **Preliminary Environmental Information (PEI) Report Volume II - Appendix 9A: Construction Noise Assessment Methodology**

**The Planning Act 2008**

**The Infrastructure Planning (Environmental Impact Assessment)  
Regulations 2017**

**Applicant: SSE Generation Limited**

**Date: November 2020**

## DOCUMENT HISTORY

<b>Document Ref</b>			
<b>Revision</b>	P1.0		
<b>Author</b>	Sam Ellwood / Jason Evans		
<b>Signed</b>		<b>Date</b>	November 2020
<b>Approved By</b>	Susan Evans / Richard Lowe		
<b>Signed</b>		<b>Date</b>	November 2020
<b>Document Owner</b>	AECOM		

## GLOSSARY

<b>Abbreviation</b>	<b>Description</b>
BS	British Standard - business standards based upon the principles of standardisation recognised inter alia in European Policy.
CCGT	Combined Cycle Gas Turbine - a highly efficient form of energy generation technology. An assembly of heat engines work in tandem using the same source of heat to convert it into mechanical energy which drives electrical generators and consequently generates electricity.
CCP	Carbon Capture Plant – plant used to capture carbon dioxide (CO2) emissions produced from the use of fossil fuels in electricity generation and industrial processes.
Ha	Hectare
kV	Kilovolt - unit of power.
kW	Kilowatt - unit of power.
PEI	Preliminary Environmental Information - an initial statement of the main environmental information available for a study area.

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## 1.0 CONSTRUCTION NOISE ASSESSMENT METHODOLOGY

### 1.1 Terms of Reference

1.1.1 The terms of reference used to describe the Proposed Development in this report are broadly consistent with those defined within the main chapters of the Preliminary Environmental Information (PEI) Report (Volume I) and for clarity include:

- The Proposed Development Site which encompasses an area of approximately 88.1 hectares (ha) of which 17.7ha of land is currently under evaluation to determine the suitability for potential construction laydown. It is noted that not all of this land will be required and will be refined through ongoing studies and assessment prior to submission of the Application;
- The Proposed PCC Site, which comprises:
  - an area of approximately 13.9ha of the Keadby Power Station site that is located within Keadby Common on which the power generation (CCGT), carbon capture and compression (CCP) and associated stacks will be developed (herein referred to as the 'Main Site');
  - overhead electricity transmission lines associated with the existing National Grid 400kV Substation which bisect the Proposed PCC Site; and
  - A further 4.8ha of land to the south of these overhead lines for administration/ control room/ warehouse buildings and car parking areas within the Proposed PCC Site.

### 1.2 Introduction

1.2.1 The indicative construction and demolition noise levels were calculated using the procedures for prediction of construction noise set out in BS5228-1:2009+A1:2014.

1.2.2 Free field construction noise levels were predicted at up to eleven receptor locations for the following construction activities:

- construction within the Proposed PCC Site:
  - preliminary works (site preparation etc.);
  - main civil works (including piling and foundation works); and
  - plant installation.
- Water Connections:
  - cofferdam installation (sheet piling)
- Electrical Connections:
  - underground connection construction (topsoil strip)
- Decommissioning of the Proposed PCC Site:

1.2.3 A full list of plant associated with each construction phase and associated sound power data from BS5228 and % on time is presented in Tables 11A-1 to 11A-3. The list of plant was sourced from other similar projects.

**Table 1: Plant and Equipment Associated with Construction on the Main Site**

Plant/Equipment	Sound Power Level (dB) Reference from BS 5228	% on time (based on 12 hr day) used in calculations	Mobile or Static?	Number in operation by stage of work		
				Site Preparation	Main Civil Works (including Piling and Foundation Works)	Plant installation
Compressors	108	100	Static	3	6	6
Hand-held pneumatic breaker	111	100	Static	3	0	0
Dump truck (tipping fill)	107	100	Mobile	2	2	0
Dump truck (pass-by)	115	100	Mobile	3	3	0
Wheeled Loader	108	100	Mobile	0	0	0
Lorry (delivery and collection)	108	100	Mobile	4	10	10
Water pump (20kW)	93	100	Static	0	0	0
Pre-cast concrete piling hydraulic hammer rig	117	100	Static	0	4	0
Hand-held welder (welding piles)	101	100	Static	0	1	0
Generator for welding	101	100	Static	0	1	0
Dumper (idling)	91	100	Mobile	0	0	0
Wheeled backhoe loader	95	100	Mobile	0	0	0
Tracked excavator	99	100	Mobile	5	5	0
Concrete mixer truck	108	100	Mobile	6	25	0

Plant/Equipment	Sound Power Level (dB) Reference from BS 5228	% on time (based on 12 hr day) used in calculations	Mobile or Static?	Number in operation by stage of work		
				Site Preparation	Main Civil Works (including Piling and Foundation Works)	Plant installation
Truck mounted concrete pump and boom arm	108	100	Mobile	0	3	0
Poker vibrator	106	100	Mobile	0	0	0
Wheeled mobile telescopic crane	106	100	Static	2	4	4
Tower crane	105	100	Static	1	2	2
Lorry with lifting boom	105	100		1	0	1
Lifting platform	95	100	Static	0	0	1
Fork lift truck	103	100	Mobile	0	0	1
Mini tracked excavator	102	100	Mobile	0	0	1
Electric core drill (drilling concrete)	113	100	Static	0	0	1
Concrete floor cutter	119	100	Static	0	0	1
Hand-held circular saw (cutting paving slabs)	112	100	Static	0	0	1
Roller	101	100	Mobile	0	0	0
Diesel generator for site cabins	94	100	Static	2	4	4
Diesel generator for site lighting	93	100	Static	1	2	2

Plant/Equipment	Sound Power Level (dB) Reference from BS 5228	% on time (based on 12 hr day) used in calculations	Mobile or Static?	Number in operation by stage of work		
				Site Preparation	Main Civil Works (including Piling and Foundation Works)	Plant installation
Road sweeper	96	100	Mobile	1	1	1
Angle grinder	108	100	Static	1	1	1
Hand-held cordless bail gun	101	100	Static	0	0	1
Road planer (road construction)	110	100	Mobile	0	0	0
Vibratory compactor (asphalt)	110	100	Mobile	0	0	0
Asphalt paver and tipper lorry	105	100	Mobile	0	0	0
Electric water pump	96	100	Mobile	2	2	2
Screen Stockpiler	115	100	Mobile	0	0	0
Concrete breaker mounted on wheeled backhoe	120	100	Mobile	0	0	0
Tracked crusher	112	100	Mobile	0	0	0

**Table 2: Plant and Equipment Associated with Construction not on the Main Site**

Plant/Equipment	Sound Power Level (dB) Reference from BS 5228	% on time (based on 12 hr day) used in calculations	Mobile or Static?	Construction Activity	
				Sheet piling for cofferdam	Topsoil strip for electrical connections
Vibratory piling rig	116	100	Static	1	0
30T Backhoe	113	100	Mobile	0	1
CAT D5	106	100	Mobile	0	1
CAT D6	109	100	Mobile	0	1
CAT D8	120	100	Mobile	0	1



## 2.0 REFERENCES

Planning Inspectorate (2017) *Planning Inspectorate Advice Note Seven (Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping)*. Version 6 December 2017.