

The Keadby 3 Low Carbon Gas Power Station Project

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The Keadby 3 (Carbon Capture Equipped Gas Fired Generating Station) Order

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

Environmental Statement Volume II - Appendix 10B: Road Safety Audit Report Stage 1

The Planning Act 2008

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

Applicant: Keadby Generation Limited

Date: May 2021

DOCUMENT HISTORY

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GLOSSARY

Abbreviation	Description
AIL	Abnormal Indivisible Load
RSA	Road Safety Audit
CCGT	Combined Cycle Gas Turbine
TSRGD	Traffic Signs Regulations and General Directions 2016
DMRB	Design Manual for Roads and Bridges
NLC	North Lincolnshire Council
TTRO	Temporary Traffic Regulation Order
RRS	Road Restraint System
RRRAP	Road Restraint Risk Assessment Process

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1.0 INTRODUCTION

- 1.1.1 Keadby Generation Limited ('the Applicant') proposes to develop a Low Carbon Combined Cycle Gas Turbine (CCGT) Generating Station (Keadby 3, herein referred to as 'the Proposed Development') on land at, and in the vicinity of, the existing Keadby Power Station, Trentside, Keadby, Scunthorpe ('the Proposed Development Site').
- 1.1.2 This Stage 1 Road Safety Audit (RSA) has been carried out on the proposed design of the proposed access to the Proposed Development from the A18, in Belton, near Scunthorpe.
- 1.1.3 The Audit was carried out by experienced Road Safety Engineers who were not involved with the design process.
- 1.1.4 The RSA was undertaken in accordance with the RSA Brief received via email from Susan Evans, on April 20th, 2021. The Audit comprised of an examination of the documents provided by the Design Team, which are listed in **Annex A**.
- 1.1.5 The RSA took place during April 2021 and the site was examined by both members of the Road Safety Audit Team together, during the hours of daylight on Thursday April 22nd, 2021.
- 1.1.6 The site inspection was undertaken between 13:30 and 14:00. Traffic was free flowing, but due to the COVID-19 pandemic, it is likely that flows were lower than usual. Weather conditions were dry and bright, with a dry road surface.
- 1.1.7 The site inspection was undertaken following COVID 19 Social Distancing guidelines. The members of the Audit Team travelled to/ from site in separate vehicles and kept a minimum distance of 2.0m from each other.
- 1.1.8 The terms of reference of the Audit are as described in the Design Manual for Roads and Bridges (DMRB) document GG119 'Road Safety Audit'. The advice issued in the DMRB applies to trunk road and motorway highway improvement schemes; however, it has been used in this report to define the scope of this Audit.
- 1.1.9 The content of this Audit should not be regarded as a direct instruction to include or remove a measure from within the scheme. Responsibility for designing the scheme lies with the Designer and as such the Audit Team accepts no design responsibility for any changes made to the scheme as a result of this Audit.
- 1.1.10 The scheme has been examined, and this report compiled, only on the road safety implications of the scheme as presented. It has not been examined or verified for compliance of the designs with any other criteria. However, to clearly explain a safety problem or the recommendation to resolve a problem, the Audit Team may, on occasion, have referred to a design standard without touching on technical audit.

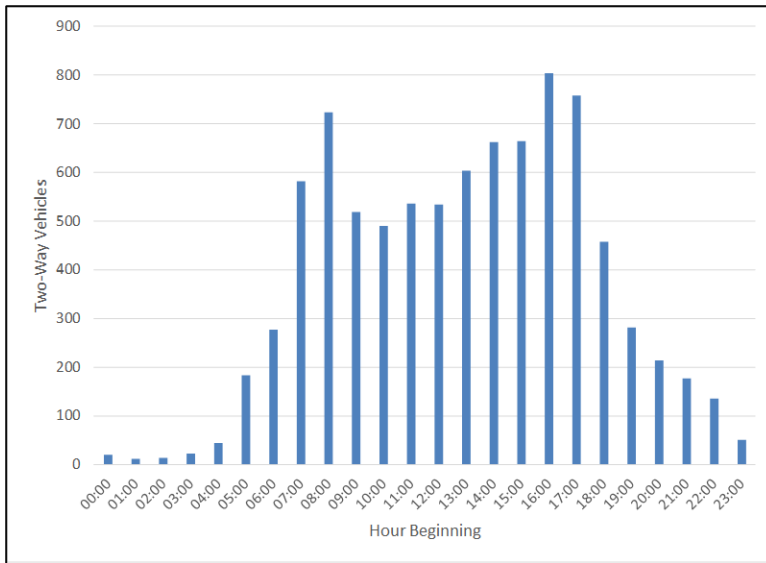
1.1.11 All traffic sign and road marking diagram number references are made to The Traffic Signs Regulations and General Directions 2016, (TSRGD).

1.1.12 Unless general to the scheme, each problem has been identified with reference to key features and highlighted on the problem location plans in **Annex B**.

2.0 SCHEME OVERVIEW

- 2.1.1 The A18 is an adopted highway subject to the National Speed Limit with a 40mph speed limit in the vicinity of the scheme. It is bordered on its southern carriageway by North Engine Drain and the River Torne (Main Rivers). The northern carriageway is bordered by grass verge habitats and beyond this an existing bridge, Mabey Bridge, which provides access over Hatfield Waste Drain (Main River).
- 2.1.2 Currently there is a 40mph speed limit on the A18 near the access point secured by a Temporary Traffic Regulation Order (TTRO) for Keadby 2 Power Station construction. It is proposed that the same for the Proposed Development construction phase is applied and in the longer-term post construction the national speed limit will apply. The road as standard has a 60mph speed limit.
- 2.1.3 The proposed scheme looks to provide a long-term solution to remove operational traffic of the Keadby Power Station from Keadby Village.
- 2.1.4 Access to the Proposed Development Site during construction and operation would be via the existing perpendicular private access road from the A18.
- 2.1.5 Mabey Bridge will be replaced prior to the main construction works commencing. An additional access road off the A18 is also included in the Proposed Development Site boundary that will be used, where required, to transport oversized Abnormal Indivisible Loads (AIL) into the Proposed Development Site and for temporary access into the Proposed Development site whilst Mabey Bridge is replaced.
- 2.1.6 The main access junction off the A18 will be improved by undertaking carriageway improvements including the provision of a right-turn pocket into the Proposed Development. The inclusion of the right-turn pocket, designed to current DMRB standards increases the safety of the junction over the existing, as there is currently no dedicated lane for any right-turning traffic at the junction.
- 2.1.7 Providing a right-turn lane would also prevent vehicles that are waiting on the A18 to turn right into the Proposed Development Site from blocking the A18 westbound traffic.
- 2.1.8 This Stage 1 Road Safety Audit covers the proposed improvements to the two access points from the A18 only,
- 2.1.9 The following typical 2020 baseline traffic flows are evident on each link:
- 2.1.10 A18 (west of the Proposed Development Site access/ Keadby 2 Power Station construction site entrance)
- Average Weekday Morning Peak (two-way): 724 vehicles.
 - Average Weekday Evening Peak (two-way): 803 vehicles; and
 - Annual Average Weekday Traffic (two-way): 8,755 vehicles.

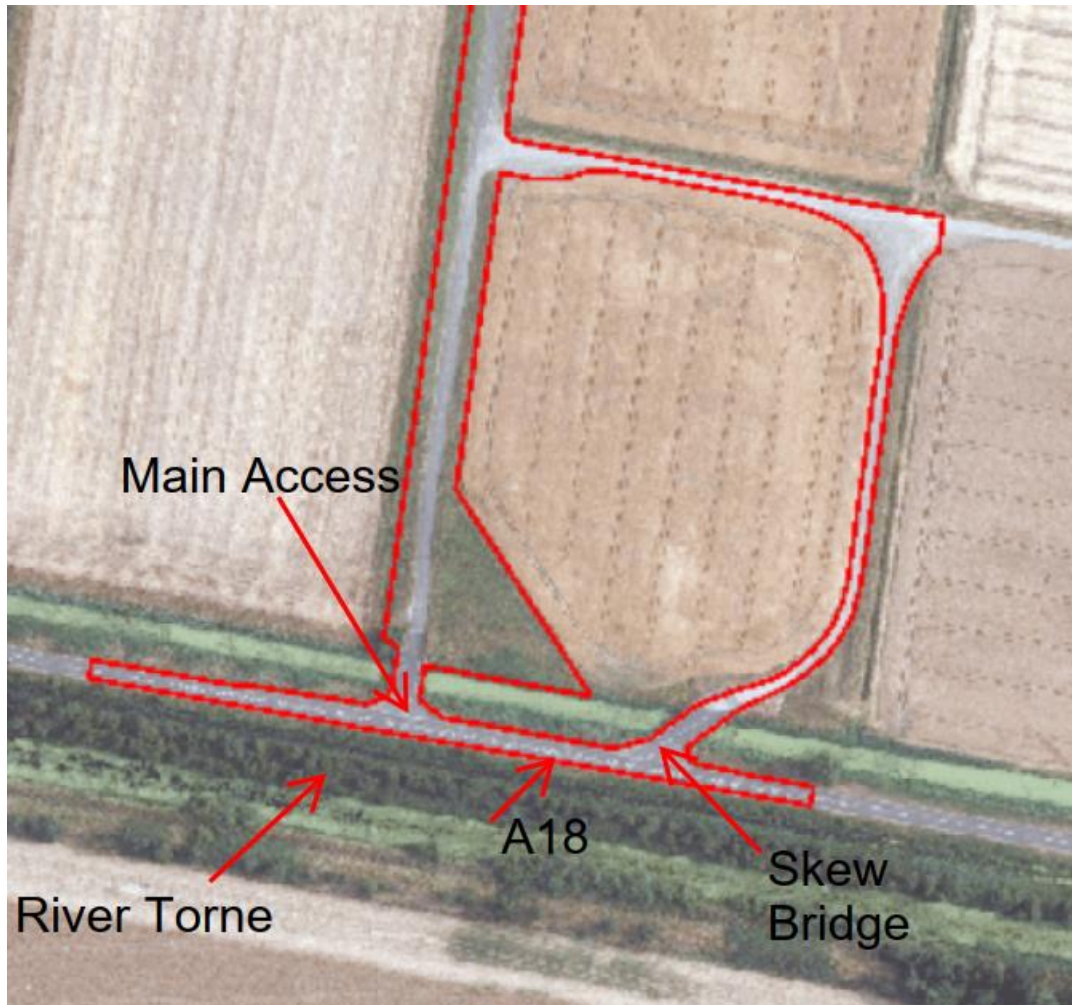
Traffic flow data



2.2 Collision Data

- 2.2.1 Collision data over the five-year study period (2015-2019) has been provided to the Audit Team and has been analysed below.
- 2.2.2 Only one collision of slight severity occurred in close proximity to the A18 / construction site access and involved two cars. This collision occurred in May 2016 before the start of construction of Keadby 2 Power Station and therefore the collision is not connected with the access junction.
- 2.2.3 Data provided by the Design Team indicates that the collision was attributed to driver/ rider error such as a failure to judge the other person’s path or speed, a failure to look properly and/ or loss of control. It has been concluded that the reported collision cannot be attributed to an inadequate highway design.
- 2.2.4 Figure 1 below shows the extents of the proposed work on the A18.

Figure 1: Location plan showing the extent of proposed works on A18



2.3 Departures from Standard

- 2.3.1 The proposed design shows that the new junction kerb lines are to tie into the existing, while also avoiding any changes made to the existing Mabey Bridge over the watercourse. The RSA Team have been notified that this is a departure as per DMRB, which requires a minimum 15m radius for the radii. This matter is to be discussed with North Lincolnshire Council (NLC), as such the RSA Team does not know if this departure has been accepted.

3.0 ISSUES OUTSTANDING FROM PREVIOUS ROAD SAFETY AUDITS

- 3.1.1 The Audit Team have not been made aware of any previous Audits been undertaken on this scheme.

4.0 ITEMS RESULTING FROM THIS STAGE 1 ROAD SAFETY AUDIT

4.1.1 The following Problems have been identified from this Stage 1 Road Safety Audit.

4.2 Local Alignment:

4.2.1 No Local alignment related issues were identified as part of this Stage 1 Road Safety Audit.

4.3 General

Problem:	4.1.1.
Location:	A18 junction with existing Keadby 2 Construction Access.
Drawing:	60625943-ACM-XX-XX-DR-D-0000-001.
Summary:	Risk of single vehicle loss of control collisions and increased severity as a result of inadequate Road Restraint System (RRS).

Description:

The A18 junction with the main Keadby 2 Construction Access has an existing Road Restraint System (RRS) on both the east and westbound approaches, protecting errant vehicles from entering the adjacent Hatfield Waste Drain and/ or coming into contact with the bridge structure.

The general arrangement drawing provided to the Audit Team states that the existing RRS is proposed to be redesigned and a Road Restraint Risk Assessment Process (RRRAP) assessment undertaken, however this information has not been provided to the Audit Team.

The Audit Team has concerns that should the incorrect RRS design be implemented, there may be an increased risk of errant vehicles entering the adjacent Hatfield Waste Drain and/ or coming into contact with the bridge structure increasing the severity of the collision and injuries.

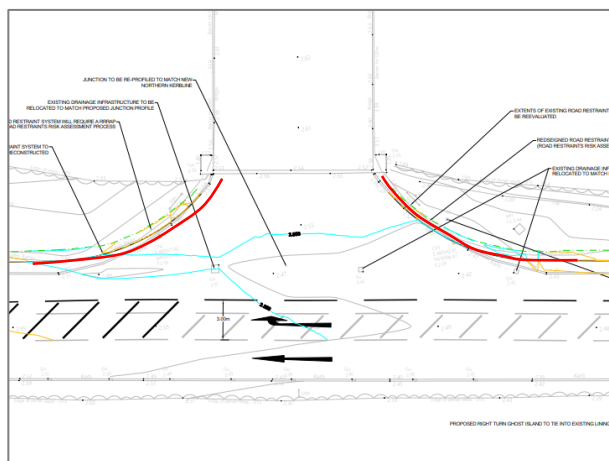



IMAGE: Extract from Drg: 60625943-ACM-XX-XX-DR-D-0000-001 showing existing RRS

IMAGE: Photo taken during site inspection of existing RRS.

Recommendation:

It is recommended that a RRRAP assessment is undertaken and the existing RRS is fully replaced.

Problem:	4.1.2
Location:	A18.
Drawing:	60625943-ACM-XX-XX-DR-D-0000-001.
Summary:	Risk of side impact type collisions as a result of loss of control due to excessive speed.
Description:	
<p>A temporary 40mph speed limit is in place on the A18, in the vicinity of the Keadby 2 Construction access, secured by a TTRO, to allow for construction of Keadby 2. The RSA Brief provided to the Audit Team states that it is proposed that the same temporary 40mph speed limit will be in place for Keadby 3 with the longer-term post construction speed limit returning to national speed limit.</p> <p>During the site inspection the Audit Team observed multiple vehicles that appeared to be travelling in excess of the posted speed limit.</p> <p>The Audit Team has concerns that due to the excessive speeds observed during the site inspection and the increased number of right turning vehicles using the new right turn provision on the A18, there may be an increased risk of side impact type collisions occurring.</p>	
	
IMAGE: Photo taken during site inspection of the section of the A18 where a 40mph speed limit applies.	
Recommendation:	
It is recommended that the 40mph temporary speed limit is retained as a permanent feature and gating measures are implemented to highlight the section of carriageway with a 40mph speed limit.	

4.4 Junctions

4.4.1 No junction related issues were identified as part of this Stage 1 Road Safety Audit.

4.5 Walking, Cycling and Horse Riding

4.5.1 No walking, cycling and horse-riding related issues were identified as part of this Stage 1 Road Safety Audit.

4.6 Traffic Signs, Carriageway Markings and Lighting

Problem:	4.4.1.
Location:	A18.
Drawing:	60625943-ACM-XX-XX-DR-D-0000-001.
Summary:	Risk of rear shunt and/ or head on type collisions as a result of proposed road marking design.

Description:

During the site inspection the Audit Team observed a number of vehicles that appeared to be travelling at high speeds along the A18, occupying the central ghost island and opposing lane to overtake other vehicles.

The proposed works include a right turn pocket within the existing ghost island, providing an area for right turning vehicles entering Keadby 3 to wait.

The Audit Team has concerns that the proposed road marking design will not prohibit vehicles over taking on the approaches to the proposed right turn pocket, potentially increasing the risk of rear shunt and/ or head on type collisions.

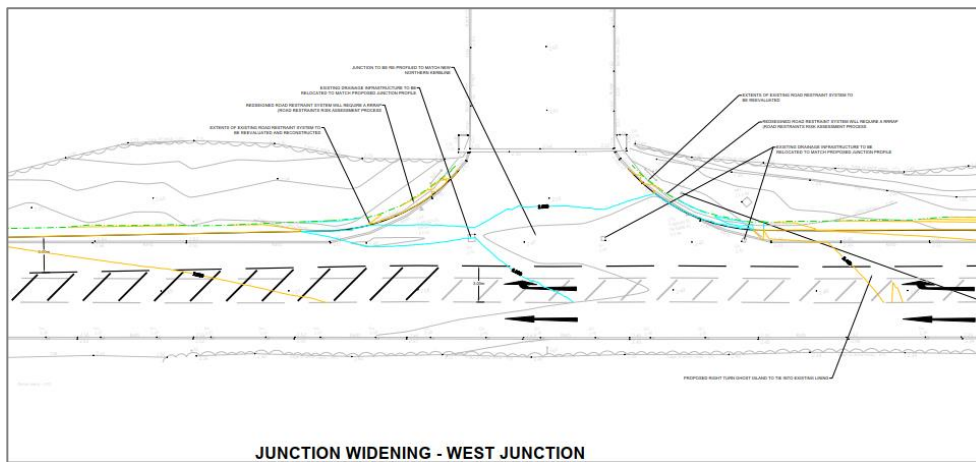


IMAGE: Extract from Drg: 60625943-ACM-XX-XX-DR-D-0000-001 showing proposed road marking design

Recommendation:

It is recommended that solid white line road markings to Diag 1013.1 and 1013.3 are provided on the approaches to the proposed right turn pocket and/ or provide traffic islands and associated island to protect the right turn pocket.

5.0 AUDIT TEAM STATEMENT

5.1.1 We certify that this Road Safety Audit has been carried out in accordance with Road Safety Audit standard GG119.

5.2 Audit Team Leader:



Position: Principal
Consultant

Date: 29/04/2021

Organisation: AECOM

Address: 2 City Walk
Leeds
LS11 9AR

5.3 Audit Team Member:



Position: Associate Director

Date: 29/04/2021

Organisation: AECOM

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5.4 Others Involved:

5.4.1 Enquiries regarding this Road Safety Audit should be made to the Audit Team Leader at the above address or email robert.norfolk@aecom.com

ANNEX A DOCUMENTS SUBMITTED TO THE AUDIT TEAM

A.1.1 The following documents were submitted as part of the Road Safety Audit:

Reference	Title	Date	Rev
60625943-ACM-XX-XX-DR-D-0000-001	General Arrangement Drawing SH1	24.02.21	A
60625943-ACM-XX-XX-DR-D-0000-002	General Arrangement Drawing SH2	24.02.21	A
Road Safety Audit Brief_Q3EU(UKI-TR)331-FM1	Road Safety Audit Brief	24.02.21	-

ANNEX B LOCATION OF PROBLEMS

