

REPORT

Boston Alternative Energy Facility

Electricity Grid Connection Statement

Client: Alternative Use Boston Projects Ltd
Planning Inspectorate Reference: EN010095
Document Reference: 5.6
Pursuant to: APFP Regulation: 5(2)(p)
Reference: PB6934-RHD-01-ZZ-R-N-3032
Status: 0.0/Final
Date: 23 March 2021





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Document short title: Electricity Grid Connection Statement

Reference: PB6934-RHD-01-ZZ-R-N-3032

Status: 0.0/Final

Date: 23 March 2021

Project name: Boston Alternative Energy Facility

Project number: PB6934

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Classification

Project related

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Table of Contents

Summary	iii
1 Introduction	1
1.1 Purpose	1
1.2 Proposed Development	1
1.3 Electrical Connection	2
1.4 Installation and Construction Details	2
2 Responsibilities for Connection	3
2.1 Responsibilities for the Connection	3
2.2 Contractual Agreements	4
3 Land Rights	4
4 Conclusion	4
5 References	5

Summary

- 1.1.1 This document is the Grid Connection Statement and has been prepared for the Boston Alternative Energy Facility (the Facility). This report is on behalf of Alternative Use Boston Projects Limited ('the Applicant') to support the application for a Development Consent Order (DCO) (the DCO application).
- 1.1.2 The Facility is a proposed Energy from Waste (EfW) plant which will have a generating capacity of approximately 102 megawatts electric (MWe) (delivering 80 MWe to the National Grid). A grid connection point would be located within the Application Site to facilitate the net export of 80 MWe (and also an import of 5 MWe) of electricity. The proposed connection point is to the 132 kV Overhead Line (OHL) pylon. The grid connection infrastructure would include a primary substation to convert the site-produced power into the local 132 kV line. These works are part of Work No. 3 of Schedule One of the draft DCO.
- 1.1.3 The purpose of the Grid Connection Statement is to explain who will be responsible for designing and building the electrical connection in accordance with Regulation 6(1)(a)(i) of The Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009 (the 'APFP Regulations').
- 1.1.4 The Applicant has engaged Harlaxton Engineering Services Limited ('Harlaxton') to connect the Facility to the grid. Harlaxton is a licensed Independent Connection Provider (ICP) and Utility Infrastructure Provider (UIP).
- 1.1.5 The electricity network at the location of the Facility is managed by Western Power Distribution (WPD) who are the Distribution Network Operators (DNO) responsible for distributing electricity in the East Midlands Region.
- 1.1.6 The Applicant (via Harlaxton) has a contractual agreement in place (the Connection Offer Agreement ref: 2445798) with WPD.
- 1.1.7 Harlaxton on behalf of the Applicant will be responsible for the detailed design, alignment and construction of the electrical connection cabling and supporting infrastructure delivered within Work No. 3 to connect to the WPD compound. WPD will be responsible for connection from the WPD compound to the 132 kV OHL.
- 1.1.8 The Applicant does not need to acquire the necessary land and rights to allow Harlaxton to construct the electrical connection because the connection point is within the Order limits.

1 Introduction

1.1 Purpose

- 1.1.1 This document is the Grid Connection Statement and has been prepared for the Boston Alternative Energy Facility (herein 'the Facility'). This report is on behalf of Alternative Use Boston Projects Limited ('the Applicant') to support the application for a Development Consent Order (DCO) (the DCO application) made pursuant to the Planning Act 2008 (the PA 2008).
- 1.1.2 This Grid Connection Statement accompanies the DCO application and has been prepared to comply with Regulation 6(1)(a)(i) of the Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009 (the APFP Regulations 2009), which requires the Applicant for the construction or extension of an onshore generating station to provide a statement of who will be responsible for designing and building the connection to the electricity grid.
- 1.1.3 The purpose of this document is to explain who will be responsible for designing and building the connection to the electricity grid which forms part of the Facility.
- 1.1.4 Paragraph 4.9.1 of the Overarching National Policy Statement for Energy (NPS EN-1) emphasises that it is for the Applicant to ensure that there will be necessary infrastructure and capacity in the planned transmission and distribution network to accommodate the electricity that would be generated by a proposed new power plant (Department of Energy and Climate Change (DECC), 2011).
- 1.1.5 Western Power Distribution (WPD) is the public facing identity of the local Distribution Network Operator (DNO) for the Facility, and are referred to as such throughout this DCO application.
- 1.1.6 A full glossary of defined terms and abbreviations is presented in the Project Glossary (document reference 6.2.27).

1.2 Proposed Development

- 1.2.1 The Facility is a proposed EfW plant which will have a generating capacity of approximately 102 MWe (delivering 80 MWe to the National Grid). A full project description is given in **Chapter 5 Project Description** of the Environmental Statement (ES) (document reference 6.2.5).
- 1.2.2 The Application Site for the Facility is located approximately 2 km to the south east of Boston town centre (NGR TF339424). The Principal Application Site

(where the grid connection will be located) is neighboured to the west by the Riverside Industrial Estate and to the east by The Haven, a tidal waterway of the River Witham between The Wash and the town of Boston. The A16 public highway is approximately 1.3 km to the west.

1.3 Electrical Connection

- 1.3.1 A grid connection point would be located within the Principal Application Site to facilitate the net export of 80 MWe (and also an import of 5 MW) of electricity.
- 1.3.2 The connection point and substation will be located in the south-east corner of the Principal Application Site. The proposed connection point is to the 132 kV OHL pylon (WPD reference HW114, at coordinates 533948.03 342379.89). The grid connection infrastructure would include a primary substation to convert the site-produced power into the local 132 kV line.
- 1.3.3 An additional overhead tower located in the south-east corner of the Principal Application Site may need to be constructed (by WPD) to manage the connection to the grid system. The need for this will be determined by WPD.
- 1.3.4 The electrification power output zone footprint is approximately 92 m x 30 m. There are two zones (the customer compound and the WPD compound) as described below.
- 1.3.5 The customer compound includes a transformer, high-level disconnecter, marshalling kiosk (this provides the connection points for the various control, protection and instrumentation wires which go to, and come from, all the different substation plants), lighting and CCTV. The compound footprint is proposed at 500 m².
- 1.3.6 The WPD compound includes a pylon (if required), high-level disconnecter, low-level disconnecter, circuit breaker, cable trench to switchroom, surge arrestors, anchor blocks and lighting/CCTV. The Compound footprint is proposed at 700 m².

1.4 Installation and Construction Details

- 1.4.1 The infrastructure for the power export island would be designed, procured, manufactured and the transformer factory acceptance tested off-site before being transferred to site. The power export island will then be installed at site and an additional pylon erected if WPD identify that it is necessary. There would be a period of testing on-site before connection to the grid after approximately 20 months from construction start.

2 Responsibilities for Connection

2.1 Responsibilities for the Connection

- 2.1.1 The Applicant has engaged Harlaxton Engineering Services Limited (Harlaxton) to connect the Facility to the grid. Harlaxton is a licensed ICP and UIP.
- 2.1.2 The electricity network at the location of the Facility is managed by WPD who are the DNO responsible for distributing electricity in the East Midlands Region.
- 2.1.3 The description of the proposed electrical connection included in the Application has been prepared by Harlaxton on behalf of the Applicant. Harlaxton's design work completed to date, has been undertaken to inform the DCO application in accordance with the Connection Offer Agreement (ref: 2445798) between Harlaxton (on behalf of the Applicant) and WPD. Harlaxton will refine the design during the detailed design, development and implementation process.
- 2.1.4 The electrical substation at the Facility will be connected to the 132 kV OHL (Boston to Walpole Line), identified within Works 3 (identified as '*Work No. 3 — Works to construct an electrical substation including on-site below ground trenches, ducting and jointing pits; and above ground structures including switchgear, and transformer, busbar sections, integrated protection scheme and uninterruptable power supplies; and connection to 132 kV pylon for export of power from the facility; and incoming connection point from the grid*).
- 2.1.5 Harlaxton will be responsible for the detailed design, alignment and construction of the electrical connection cabling and supporting infrastructure delivered within Work No. 3 to connect to the WPD compound. WPD will be responsible for connection from the WPD compound to the 132 kV OHL.
- 2.1.6 Article 8 of the draft DCO (Benefit of this Order) grants consent for Works No. 3 for the benefit of the Applicant, Harlaxton and WPD. In addition, Article 9 provides that the benefit of the order may be transferred. The consent of the Secretary of State is required for a transfer, except in the case of a transfer to a person licensed under section 6 of the Electricity Act 1989 provided certain conditions as to compensation for compulsory acquisition have been met. WPD holds a licence under section 6 of the Electricity Act 1989. These provisions enable the electrical connection to be implemented as described above.

2.2 Contractual Agreements

2.2.1 The Applicant (via Harlaxton) has a contractual agreement in place (the Connection Offer Agreement ref: 2445798) with WPD.

2.2.2 A detailed programme of connection works will be finalised by Harlaxton once the DCO is approved. Further discussions will take place with WPD OHL experts as the application progresses with regards to the connection in terms of methodology, design and specific milestones.

3 Land Rights

3.1.1 The Applicant is not seeking compulsory acquisition powers in the draft DCO for the necessary rights over the land for the electrical connection to be constructed, used and maintained. The connection point is within the Order limits for the Facility.

4 Conclusion

4.1.1 The Applicant is required to submit a statement pursuant to Regulation 6 of the APFP Regulations confirming "*who will be responsible for designing and building the connection to the electricity grid*".

4.1.2 This Statement explains that:

- A grid connection point would be located within the Application Site to facilitate the net export of 80 MWe (and also an import of 5 MW) of electricity ;
- A Connection Offer Agreement ref: 2445798 has been implemented to confirm that Harlaxton will continue to design and implement the electrical connection to connect to the WPD compound, with WPD taking the connection from the WPD compound to the 132 kV OHL.;
- The Applicant does not need to acquire the necessary land and rights to allow Harlaxton to construct the electrical connection because the connection point is within the Order limits; and
- The electrical connection is included in the draft DCO (document reference 2.1). If the DCO is made substantially in accordance with the draft DCO, the Applicant will have secured development consent for the electrical connection.



5 References

Department of Energy and Climate Change (DECC) (2011). The overarching NPS for Energy (EN-1).