

**FOSSE GREEN ENERGY PROJECT
DEADLINE 3 (20 MARCH 2026)
NATIONAL GRID ELECTRICITY TRANSMISSION PLC
RESPONSE TO EXQ2 GC.2.01**

1. INTRODUCTION

- 1.1 This submission is made on behalf of National Grid Electricity Transmission plc (**NGET**) in response to the Examining Authority's second written question GC.2.01, which requests that NGET explain the factors informing the identification of a site east of Navenby (**the Site**) for its proposed substation (**the Navenby Substation**), including any existing infrastructure or available capacity that may have influenced that choice.
- 1.2 The Site lies adjacent to the existing 4ZM 400 kV overhead line (**4ZM OHL**), providing an efficient connection point for prospective generation projects in central Lincolnshire. It performs well against technical, environmental and deliverability considerations through NGET's structured site selection process.

2. NGET'S STATUTORY DUTIES

- 2.1 As a transmission licence holder under the Electricity Act 1989 (**the 1989 Act**), NGET has a statutory duty to develop and maintain an efficient, coordinated and economical transmission system and to facilitate competition in the generation and supply of electricity, including providing connections for generation customers.¹
- 2.2 NGET must also comply with Schedule 9 to the 1989 Act, which requires it to have regard to environmental and heritage considerations and to mitigate any adverse effects of its proposals where reasonably practicable.
- 2.3 These statutory duties form the framework within which NGET plans new transmission infrastructure, balancing efficient system requirements with environmental and amenity considerations.

3. PRINCIPLES GUIDING SITE SELECTION

- 3.1 In identifying a suitable location for the Navenby Substation, NGET followed its established Approach to Options Appraisal² (**the Options Appraisal**). This framework involves staged refinement of options from early concept through to detailed design, initially considering all technically feasible approaches, then assessing environmental, technical, socio-economic and cost assessments until a preferred option is identified.
- 3.2 NGET also applies the Horlock Rules³, which provide guidance on siting substations. The Horlock Rules require consideration of environmental issues from an early stage, avoidance

¹ Section 9, 1989 Act.

² Our Approach to Options Appraisal, National Grid (2012).

³ Horlock Rules, NGG Substations and the Environment: Guidelines on Siting and Design, National Grid (2009).

of areas of highest amenity or environmental value where practicable, and minimisation of visual, noise and other environmental effects.

4. SITE SELECTION PROCESS

Need for the Navenby Substation and Identification of the Study Area

- 4.1 The Navenby Substation is required to facilitate connections for renewable energy generation projects in central Lincolnshire, where there has been significant growth in solar and BESS proposals.
- 4.2 Seven prospective projects in the Navenby and Ruskington area are currently on the Transmission Entry Capacity (TEC) register, with anticipated connection dates from 2028 onwards. To accommodate these connections, electricity must be transformed at a substation before export onto the transmission network.
- 4.3 New transmission substations must connect directly into existing circuits, making the location of the transmission network a primary constraint. The existing 4ZM OHL runs through this area between West Burton and Bicker Fen substations, and the proximity of generation projects to this corridor makes it the logical connection point. Existing substations on the wider network are too distant from the cluster of prospective generation projects, and connecting via them would require longer infrastructure and be less efficient in engineering, environmental and economic terms.
- 4.4 NGET has therefore identified the need for the Navenby Substation as a new connection node on the existing 4ZM OHL, capable of accommodating multiple generation connections. A 12 km section of the 4ZM OHL between Navenby Heath and the River Slea was identified as the most appropriate corridor for the substation, with a 2 km buffer around this section defining the Study Area to ensure that potential sites remained sufficiently close to the existing transmission infrastructure to enable efficient “turn-in” connections.

Identification and Appraisal of potential siting options

- 4.5 A staged site selection exercise was undertaken within the Study Area. Constraints mapping identified environmental, socio-economic and technical factors, including ecological designations, landscape character, heritage assets, flood risk, transport, land use and visual receptors, resulting in seven potential siting options which went through a high-level options appraisal.
- 4.6 These seven potential options were appraised against environmental, socio-economic, technical and cost factors, consistent with NGET’s statutory obligations and the Horlock Rules. Two options were discounted due to heritage, landscape and visual impacts.
- 4.7 Five remaining options underwent detailed options appraisal through a series of site visits and technical workshops, examining engineering feasibility, OHL connection arrangements, environmental effects, access and deliverability. Following this review, two options were retained, with refined layouts developed before the preferred Site was identified.

5. SELECTION OF NAVENBY SUBSTATION SITE

- 5.1 The Site was identified as the preferred location for the Navenby Substation following a detailed options appraisal in accordance with NGET’s statutory duties, its Options Appraisal process and the Horlock Rules.
- 5.2 The Site lies close to the existing 4ZM OHL, enabling an efficient “turn-in” connection, provides a suitable connection point for multiple generation projects in the area, and minimises impacts on environmental and heritage assets.
- 5.3 The Site therefore offers the most appropriate balance between technical feasibility, environmental considerations and deliverability.

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