

Feckenham – Hams Hall (FHRE) Submission Summary

National Grid Electricity Transmission
Eligibility Letter and Needs Case

May 2026

T3 – Feckenham – Hams Hall OHL Reconductoring

Executive Summary

Background

The Feckenham – Hams Hall OHL Reconductoring (FHRE) project involves the reinforcement of an existing 400 kV overhead line (OHL) circuit between Feckenham and Hams Hall. The investment is driven by the need to increase the circuit's thermal capacity and address emerging network constraints on the B8 and B9 system boundaries.

The existing circuit has a winter post-fault rating of 2010 MVA, which is insufficient to meet forecast power transfer requirements under future system conditions. The project will increase this capacity to 3100 MVA, supporting increased north-to-south power flows and facilitating wider system reinforcement aligned to Clean Power 2030 objectives.

The scheme has been identified through the Network Options Assessment (NOA7) and confirmed as a necessary reinforcement within the Transitional Centralised Strategic Network Plan (tCSNP2). It forms part of a broader programme of Midlands network enhancements required to maintain system reliability and accommodate future demand and generation growth.

Investment Drivers

The primary drivers for this investment are:

Network capacity requirements (NESO):

- Increase B8 boundary capability by approximately 1050 MW and B9 boundary capability by approximately 950 MW MVA to meet forecast system requirements.
- Address risk of thermal overloading by increasing circuit rating to at least 3100 MVA

Asset health benefits (secondary driver):

- Replacement of ageing fittings and steelwork to improve reliability and extend asset life.

Options

A structured optioneering process considered a wide range of interventions, including:

- Option A: Do nothing
- Option B: Hotwire existing circuit
- Option C: Install power flow control devices
- Option D (variants): Reconductoring with different conductor types
- Option E: Upgrade 275 kV network to 400 kV
- Option F: Build new 400 kV circuit
- Option G: Dynamic line rating

Following assessment, two credible shortlisted options were identified. For commercial reasons, we shall refer to these in generic terms as Conductor A and Conductor B:

- Option D-1: Reconductoring with Conductor A
- Option D-4: Reconductoring with Conductor B

All other options were rejected as they:

- did not meet the required 3100 MVA capacity,

- were non-compliant (e.g. type registration constraints), or
- could not be delivered within required timescales.

Preferred Solution

The preferred solution is Option D-1: Reconductoring with Conductor A.

This option is selected on the basis that it:

- Provides the lowest whole-life cost and higher NPV compared to alternatives.
- Has lower capital cost and transmission losses than Option D-4
- Uses a proven and widely deployed conductor, reducing delivery, operational and supply chain risks.

The preferred solution will deliver the following key outputs:

- Increase B8 boundary capability
- Improve system reliability by reducing overload risk under contingency conditions.
- Enables full refurbishment of conductors, fittings and targeted steelwork, improving asset reliability and extending asset life.