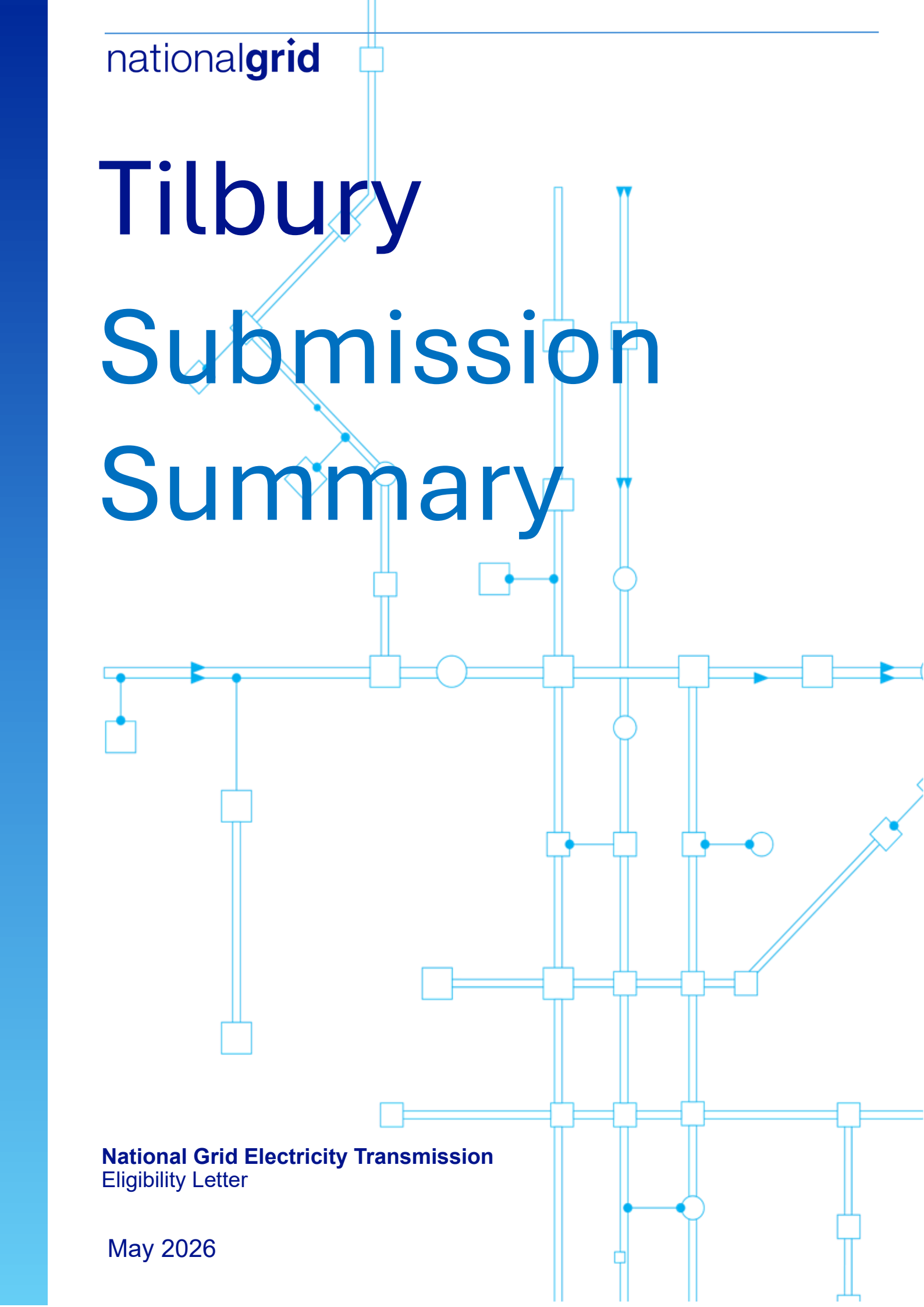


Tilbury Submission Summary

National Grid Electricity Transmission
Eligibility Letter

May 2026



T3 - Tilbury 275 kV Site Strategy

Executive Summary

Background

Tilbury 275 kV substation is a strategically important transmission asset supporting power flows into London and the Southeast. The proposed investment involves rebuilding and/or upgrading the existing substation to address a combination of load-related and asset health drivers.

The need for investment is driven by its critical role in enabling regional network upgrades, facilitating future customer connections, and maintaining system operability. The project also supports the wider strategy to upgrade parts of the network to 400 kV, particularly as part of the tCSNP2 programme and associated reinforcement projects.

The scheme is being progressed under the RIIO-ET3 Load Related Re-opener process (Track 3 Eligibility Letter), with further optioneering required before a preferred solution is confirmed.

Investment Drivers

There are multiple drivers for the investment:

Customer connections

- Requirement to facilitate contracted connections for demand (data centre) and NESO pathfinder project for voltage control.
- Enabling wider regional connections, including those at Warley provided in a separate submission.

Network operability and strategic reinforcement (NESO requirements)

- Facilitate delivery of future projects including the tCSNP2 TWNC project involving a new circuit between Wymondley Main and Waltham Cross and upgrading of the North London 275 kV ring to 400 kV to achieving LE1 boundary uplift.
- Addressing constraints and support increased power transfer into London and the Southeast.

Asset health and resilience

- The existing 275kV site contains a number of assets rated High or Very High risk, alongside ground subsidence issues impacting structural integrity, that are to be addressed as part of this project.

Without intervention, NGET would be unable to meet obligations to provide efficient connections or maintain system operability in the region.

Options

A structured optioneering process considered a range of strategic and technical solutions, including:

- A. Do nothing
- B. Market-based solutions
- C. Whole-system (DNO-led) solutions

- D. Make use of existing assets
- E. New build substation

A structured optioneering process identified a longlist of options, including refurbishment, rebuild and new site solutions. Options such as “do minimum” and refurbishment-only approaches were discounted as they do not meet future network requirements or enable strategic reinforcement.

Four feasible shortlisted options were identified:

- Option D3 (AIS) - Refurbishment of the existing 275 kV substation, with transfer of Warley circuits to the existing 400 kV substation.
- Option D5 (GIS) - Full in-situ rebuild and rationalisation of the substation to a 400 kV GIS configuration within the existing site boundary
- Option E7 (AIS or GIS) - Full off-site rebuild of both the 275 kV and 400 kV substations at a new location, either as AIS or GIS

Three new locations were identified for Option E7, of which two are to be taken forward for further assessment.

Preferred Solution

A preferred solution has not yet been selected, as the project is at the Track 3 Eligibility Letter stage.

The shortlisted options will be subject to further assessment, including detailed cost-benefit analysis, stakeholder engagement, and design development prior to submission of the Needs Case where a preferred solution will be presented.