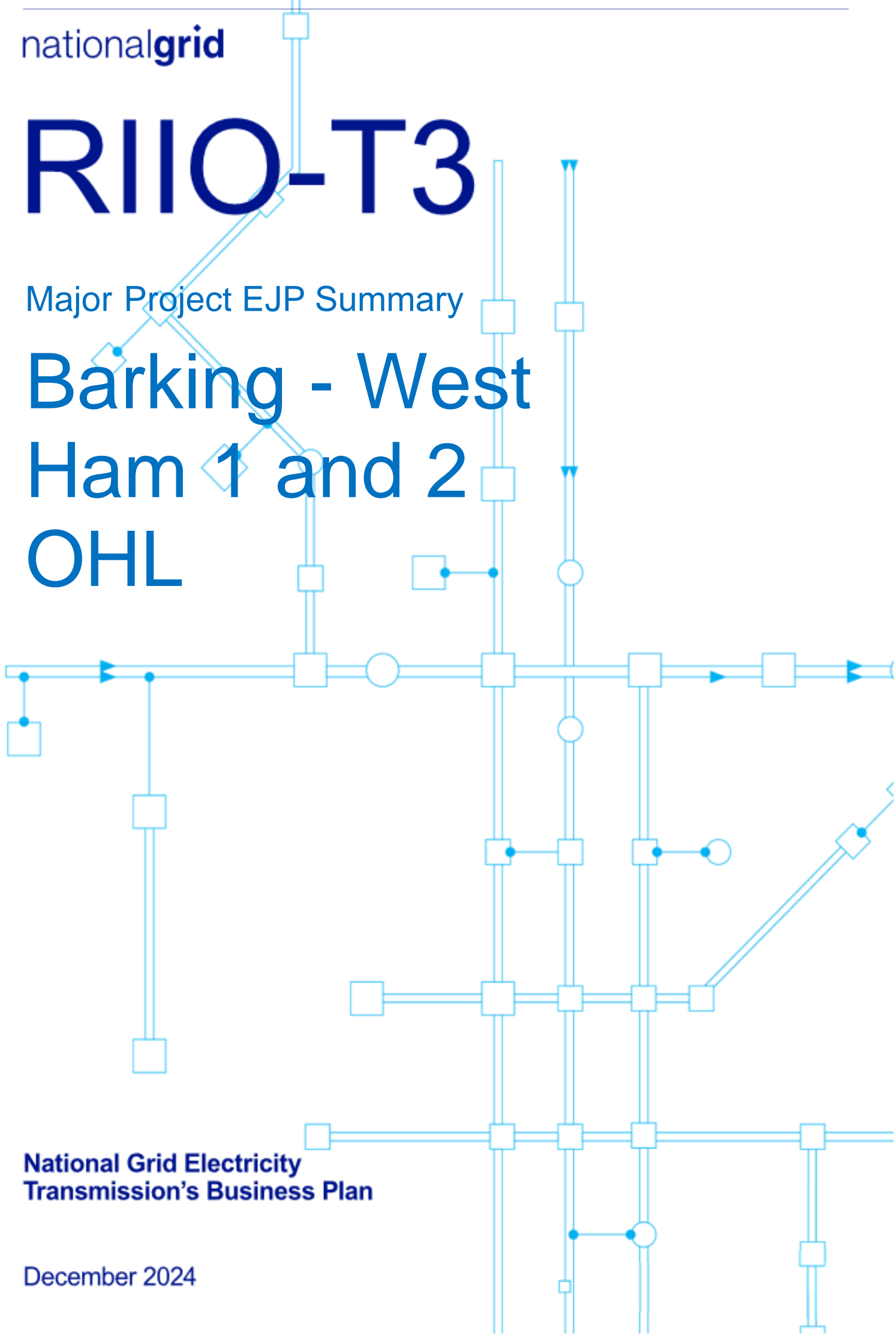


# R110-T3

Major Project EJP Summary

## Barking - West Ham 1 and 2 OHL



**National Grid Electricity  
Transmission's Business Plan**

December 2024

# Barking - West Ham 1 and 2 OHL Project

## Executive Summary

### Background

The Barking - West Ham 1 and 2 overhead line (OHL) circuit (BWRE) is a crucial segment of the southeast UK transmission network. These circuits span from Barking substation to West Ham. Despite undergoing significant refurbishments, the most recent of which occurred in 1992, these circuits require further interventions to meet current and future power demands. The OHL route passes through densely populated urban areas, necessitating meticulous planning and coordination for upgrades.

### Investment Drivers

The primary need for this investment is the need to increase boundary capacity by 250 MW across the LE1 boundary, as identified in the Network Options Assessment (NOA7) Refresh report. This upgrade is essential to accommodate higher electrical loads and ensure system stability, particularly in light of increasing power demands and enhanced wind energy connections in the northeast. The optimal delivery date for this project is 2028, according to NESO's NOA7 Refresh and the 'Beyond 2030' report.

Secondary drivers include the necessity to meet growing customer demand and planned connections by upgrading the circuit as part of the Transmission Works Review (TWR) central assessment, with a need date of 2029. Additionally, there are asset health objectives, particularly with the OHL fittings and steelwork maintenance on the towers.

### Options

An assessment of options was undertaken to formulate the investment proposal. The key outputs and benefits considered included achieving a post-fault winter rating of 3100 MVA, addressing steelwork-related conditions, and providing additional capacity to meet future needs.

### Preferred Solution

The preferred solution is to reconductor the Barking - West Ham 1 & 2 circuits with updated conductors. This solution will:

- Increase the LE1 boundary capability by approximately 250 MW.
- Enhance the circuit's winter post-fault rating from 2010 MVA to 3100 MVA.
- Address the condition of the existing steelwork and fittings, ensuring the continued reliability and structural integrity of the towers.
- Support the transition to a sustainable energy system by increasing the capacity to handle future demand and generation growth.

### Timeline

The project is proposed for completion by December 2028 as per NOA signal. Key milestones in the timeline include securing necessary system access, addressing supply chain constraints, refining cost estimates, and ensuring alignment with strategic network goals. The NOA7 Refresh process and the 'Beyond 2030' report have substantiated the necessity of this project, emphasizing its critical role in enhancing the UK's transmission network capacity.