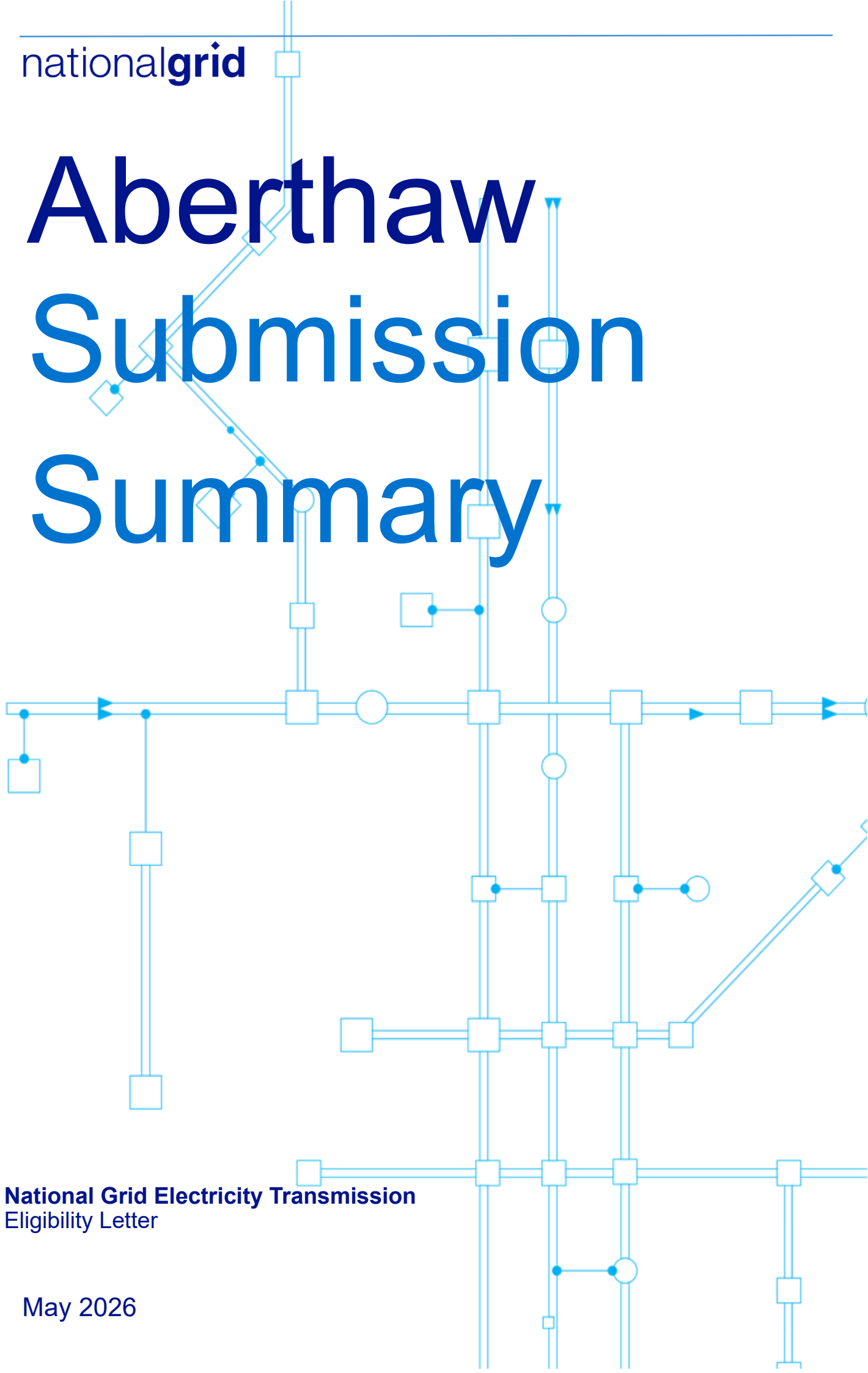


Aberthaw Submission Summary

National Grid Electricity Transmission
Eligibility Letter

May 2026



T3 – Aberthaw 275/132 kV Site Strategy

Executive Summary

Background

Aberthaw is a RIIO-ET3 load-driven reinforcement and asset replacement project to rebuild the 275/132 kV site in South Wales. The investment is intended to enable contracted customer connections at Aberthaw, strengthen the transmission–distribution interface serving Cardiff and the Vale of Glamorgan. The substation was built between the 1950s and 1960s and is an indoor AIS substation.

The submission is Load Re-opener Eligibility Letter and seeks confirmation of eligibility, pre-construction funding and approval of the needs case and preferred solution. Current regional studies do not identify a present driver to uprate Aberthaw to 400 kV; the proposed approach therefore reinforces and renews the 275/132 kV site while preserving future optionality.

Investment Drivers

The investment has a key primary driver, supported by the wider South Wales regional strategy:

- Customer connections

Options

NGET considered strategic options including do nothing, market-based solutions, whole-system/DNO solutions, reuse of existing assets and new build. Options that would not meet customer or licence obligations, or that introduced disproportionate cost, programme or consenting risk, were discounted.

The shortlisted options were:

- Option D-1: Do minimum works, utilising spare bays at the existing AIS substation.
- Option E-2: New non-SF6 GIS substation, cabled to existing OHL towers.
- Option E-4: New non-SF6 GIS substation, with OHL realignment to the rebuilt substation.
- Option E-6: Prioritisation of the 132 kV non-SF6 GIS rebuild, with a delayed 275 kV build.

Option E-4 was selected as the preferred option because it provides the clearest balance of deliverability, futureproofing and consumer value, while avoiding the limitations of refurbishing the existing site, relying on extensive cabling or adopting a more complex staged approach.

Preferred Solution

The preferred solution is Option E-4: a new GIS 275/132 kV substation, with overhead line realignment to the rebuilt substation.

- The scope includes a new double busbar 275 kV GIS substation, feeding a new NGED double busbar 132 kV GIS substation and a new NGED double busbar 132 kV GSP.
- Existing circuits will be transferred from the legacy Aberthaw sites, with the legacy assets decommissioned.
- The preferred option supports contracted customer connections, addresses and provides future capacity through spare bays and space for additional SGTs.