Substation Civils Re-Opener
Basic Project Investment Paper
Willesden 275kV – Switchhouse Roof Repair

Author	Steve Barnett	Date Started	13/06/2022
Reference Number	2014-073		

1. Scheme Summary by Regulatory Category

Unique Identifier	Site	Asset	RIIO Financial Category	Output Year	Total Costs (£m)
2014-073	Willesden 275kV Substation	Switchhouse Roof	Roofs	2025	[redacted]

2. Driver Summary

Project Overview	The Switch-House roof at Willesden 275kV substation is leaking, allowing water ingress to the inside of the building. The existing roof requires stripping back and removal of corrugated roof sheeting that is damaged or corroded before being replaced. A new decking and ply membrane should be applied to the roof.
Plant Status Link:	*2014-073*
Scope Diagram/Photographs	

3. Project Summary

Overview	The Switch-House roof at Willesden 275kV substation is leaking, allowing water ingress to the inside of the building. The existing roof covering is either a bitumen and felt, or a polyester based multi-layer system, laid on top of timber decking which is on top of corrugated roof sheeting. There are numerous blisters under the bitumen roofing sheets and in one area the sheets have become detached from the rest of the roof covering. These blisters suggest the presence of moisture or water vapour under the roofing sheets and the detached section could imply that the sheets are delaminating from the timber decking, which in turn could be decaying under the sheets. The existing roof covering and timber decking should be stripped back and removed to expose the corrugated roof sheeting below, which should be checked for signs of corrosion and treated accordingly. All rainwater outlets should be cleared of any moss and debris, and checked for integrity to ensure they are leak-free and free-flowing. New plywood decking should then be laid on top of the corrugated roof decking and a fleece-backed 2mm thick single-ply membrane applied in accordance with the manufacturer's instructions using new aluminium capping and/or trims where necessary. There are three levels of roof to be recovered, the main Switch-House at 108m long x 44m wide x 20m high, the stairwell at 5m long x 5m wide x 25m high and the entrance lobby at 9m long x 5m wide x 10 high.
Programme/Duration	20-24 weeks.
Outage Requirements & Ops Resource	The works can be delivered without the need for a system outage.
Key Risks and Hazards	Working at height Working adjacent to /over live electrical equipment High winds will prevent works being undertaken. Heavy rain could damage areas beneath the roof if inadequate temporary protection is provided.

Design to Be Resolved	Enabling works such as the location of the access tower and power supply has not yet been determined.
Development Strategy/Interacting Works	Subject to available outages for works relating to 2014-102, it may be possible to combine the replacement of the last 3 bays of translucent wall cladding panels.
Assets In Ellipse:	Not currently separately identified, falls under the site wide code WLSD2SBUILD
Contract Strategy	Competitive tender via the Minor Schemes Roofing & Cladding Framework.

4. Baseline Cost Estimates

All costs in this section are base costs (pre-out-turned), to 2 decimal places

Base Year	2018/19							
Base Cost totals (£m)	**Plant Status No.**	**Costs incurred to date**	**Design Costs**	**Contractor Prelims**	**Contractor Construction Cost**	**Contractor Temporary Works**	**Contingency (£m)**	**Total Project Cost (£m)**
	2014-073	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Notes:	Contingency calculated at [redacted]% of construction cost.							

5. Declarations

Approval		**Name**	**Signature**	**Date**	**Declaration**
1	Commercial and Portfolio Manager	Sheena Froggatt		03/08/22	The Investment Team Manager has determined that this scheme is in line with overall business goals and objectives.
2.	Asset Management Lead	Damien Culley		22/08/22	The Asset Management Lead has determined that this scheme is in line with overall business goals and objectives.