Environmental – Flood Resilience

ED2 Engineering Justification Paper Addendum

ED2-NLR(A)-SPEN-003-RES-EJP-ADD

Issue	Date	Comments
Issue 0.1	Aug 2022	Internal Draft for Review
Issue 0.2	Aug 2022	Internal Draft with Comments Addressed
Issue 1.0	Aug 2022	First Issue - Draft Determination Response

Scheme Name	RIIO ED2 – CV16 – Flood Resilience			
PCFM Cost Type	Non-Load Related – Other			
Activity	Flood Resilience			
Primary Investment Driver	Improve flood resilience levels to meet industry standard			
Reference	ED2-NLR(A)-SPEN-003-RES-EJP-ADD			
Output Type	Flood Resilience			
Cost	**SPD**	£5 302m	**SPM**	£4.343m
Delivery Year	2023-2028			
Reporting Table	CV16			
Outputs included in ED1	~~Yes~~/No			
Business Plan Section	Ensure a Safe and Reliable Electricity Supply			
Primary Annex	Annex 4A.15: Civils and Flooding Strategy			

Spend Apportionment	**ED1**	**ED2**	**ED3**
	£m	**£9.645m**	**£m**

	Proposed by	**Endorsed by**	**Approved by**
Name	David Cupples	Ralph Eyre-Walker	Russell Bryans
Signature	David Cupples		
Date	23.08.2022	23.08.2022	23.08.2022

1 Purpose

This addendum has been prepared to provide additional information and justification to ED2-NLR(A)-SPEN-003-RES-EJP Environmental Flood Resilience EJP following receipt of RIIO-ED2 Draft Determination The content of addendum is in direct response to comments and feedback provided by Ofgem as to the "Partially Justified" status of the EJP. The purpose of this document is to support Ofgem's assessment for Final Determination including supporting any associated impact on engineering adjustments within Ofgem's financial modelling.

2 Ofgem Comments & Feedback

2.1 RIIO-ED2 Draft Determination SPEN Annex

The following comments are taken from Table 26 of *"RIIO-ED2 Draft Determination SPEN Annex"*.

Ofgem Comment - Partially Justified. We agree with the needs case presented by SPEN. We consider the proposed volumes to be uncertain as they are based on DCPR5 and RIIO ED1 intervention rates, as opposed to site requirements, which will be known after SPEN complete their proposed surveys.

Ofgem Identified Risks - There is a risk that the out-turn volumes will differ from the volumes that SPEN have proposed in their submission.

3 Additional Justification

3.1 Additional Supporting Information

SPEN's forecast volumes are based on the required level of resilience for substations as set out within the Energy Networks Association (ENA) published Engineering Technical Report 138 'Resilience to Flooding of Grid and Primary Substations' (ETR 138).

A full review of our Grid and Primary substations was undertaken in 2020/21 against the latest available flood maps from the environment agencies to identify sites at risk flooding in line with ETR 138. All sites identified were subsequently checked manually against flood maps to confirm flood risk was within the site boundaries.

Flood modelling and the associated maps are updated by the environment agencies as the latest modelling outputs become available. These updates can occur multiple times within a single price control period with the subsequent impact on volume and location of sites impacted by flooding. As covered in Section 2 1 of the Flood Resilience EJP, climate change impact is forecast to see a continued increase in flood risk across sources (Pluvial, Fluvial and Coastal) As a result of the continual review and update of modelling and the impact of climate change forecasting, flood resilience will always be an ongoing programme of work which will continue into future price controls as more sites become

at risk of flooding. This forecast increase in flooding is in line with the UKCP18 data climate projections set out in Section 5 2 of SPEN's Climate Resilience Strategy, which include;

- Precipitation
    - Winter precipitation projected to increase, increasing the risk of flooding at substations
    - Extreme hourly rainfall projected to increase in winter
- Sea Level Rise
    - Sea level will continue to rise up-to and beyond the end of the 21st century, with projections up to 1 m by 2100 under a high emissions scenario
    - Extreme sea levels will increase due to the rise in mean sea level, increasing the risk of coastal flooding and erosion to our coastal assets

SPEN recognise that there is a level of uncertainty around which individual sites shall require intervention, however, forecast that the volumes of Detailed Flood Risk Assessments and Interventions within RIIO-ED2 are required as a minimum with intervention locations to be identified in-period. This is due to the expectation that the latest flood mapping from the environment agencies will identify further substations at risk, or at greater risk within period. Should further sites be identified as requiring intervention these shall be planned and included within RIIO-ED3 with volumes for additional DFRAs where needs case arises based on latest modelling information.