



Legal and Safety – Fire Protection

ED2 Engineering Justification Paper Addendum

ED2-NLR(A)-SPEN-003-SAF-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	CV14	Legal and Safety	Fire Protection
PCFM Cost Type	Non Load Related		Other	
Activity		Fire Protection		
Primary Investment Driver		Legal requirement to comply with ESQCR and Fire Safety Regulations		
Reference		ED2 NLR(A)-SPEN 003 SAF-EJP-ADD		
Output Type		Fire Protection		
Cost	SPD	£6.591m	SPM	£7.245m
Delivery Year		2023-2028		
Reporting Table		CV14		
Outputs included in EDI		Yes/No		
Business Plan Section		Ensure a Safe and Reliable Electricity Supply		
Primary Annex		Annex 4A.18 Legal and Safety (CV14) Strategy		

Spend Apportionment	EDI	ED2	ED3
	£m	£13.836m	£m

	Proposed by	Endorsed by	Approved by
Name	David Cupples	Ralph Eyre-Walker	Russell Bryans
Signature	<i>David Cupples</i>		
Date	23.08.2022	23.08.2022	23.08.2022

I Purpose

This addendum has been prepared to provide additional information and justification to ED2-NLR(A)-SPEN 003-SAF-EJP Fire Mitigation EJP following receipt of RIIO ED2 Draft Determination. The content of addendum is in response to comments and feedback provided by Ofgem as to the “Partial Justification” 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 Determinations SPEN Annex

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

Ofgem Comment Partially Justified While we agree with the needs case in principle, we do not believe that sufficient justification has been provided for SPEN’s proposed significant increase in expenditure. In particular, we consider SPEN’s proposal is based on limited sampling beyond desktop surveys. We therefore have insufficient confidence in the forecast volumes.

Ofgem Identified Risks - The limited sampling used by SPEN means that there is a risk that the outturn volumes differ significantly from SPEN’s proposed volumes.

2.2 Draft Determination SQs

Following the receipt of Draft Determination, SPEN submitted SQs including ‘SPEN_DD_016 EJP Clarification’ which contain detail relevant to this EJP. The relevant content of the SQ has been included below for reference.

ED2-NLR(A)-SPEN-003-SAF-EJP Legal & Safety Fire Protection

While we agree with the need case in principle, we do not believe that sufficient justification has been provided for SPEN’s proposed significant increase in expenditure. In particular, we consider SPEN’s proposal is based on limited sampling beyond desktop surveys. We therefore have insufficient confidence in the forecast volumes. The limited sampling used by SPEN means that there is a risk that the outturn volumes differ significantly from SPEN’s proposed volumes.

Can Ofgem confirm which volumes included in this EJP are considered by Ofgem as being a risk (inspection or intervention)?

SQ SPEN_DD_016 EJP Clarification Ofgem Response (08/08/2022)

The proposed volumes of both inspections and interventions are uncertain. With regards to inspections, SPEN did not provide sufficient evidence to justify the significant increase in proposed

inspections when compared to ED1. With regards to interventions, again, we were not satisfied that SPEN has provided sufficient evidence to justify the assumptions driving the volume of interventions (from inspections) We welcome such further information as SPEN propose, and we will consider such information if provided

3 Additional Justification

3.1 Summary of any Ofgem SQs

SPEN responded to SQs (SPEN058 & SPEN074) Issued by Ofgem on the 07/02/22 & 16/02/22 and the responses have been appended in Section 4 for reference. SPENs responses to the SQs provided further detail on the following points:

- Fire Risk Assessment Programme and Satellite Survey
- SP Corporate Fire and Security review of Grid and Primary Substations
- Additional justification around intervention volumes
- Clarification of Fire Protection Volumes

3.2 Additional Supporting Information

As set out within the Fire Protection EJP and SQ responses the three main areas of activities undertaken within the Fire Mitigation Workstream are:

- **Fire Risk Assessments** – Completing Detailed Fire Risk Assessment (FRA) at all our ground mounted substation locations in accordance with our regulatory and legislative requirement.
- **Fire Action Close Out** – Dedicated programme of closing out actions identified through the FRAs to reduce fire risk as far as reasonably practicable.
- **Fire Systems** – Installation / upgrade / replacement of fire detection systems in our 132kV and EHV substations.

3.2.1 Fire Risk Assessments and Action Close out

Within RIIO-ED1, a targeted programme of FRAs and action close out has been progressed targeting a subset of our substations which were deemed to be of higher risk This activity provided the initial justification for the RIIO-ED2 strategy alongside the regulatory and legislative requirements set out in EJP Section 2.1.

Within RIIO-ED2, SPEN are proposing to build on the initial low-volume programme in RIIO-ED1. This programme highlighted the level of investment that was required at a subset of our highest risk

sites to achieve regulatory compliance and manage fire safety risk for staff, contractors and public who come into contact with our substations.

The significant increase in volumes within RIIO-ED2 is mostly driven by FRAs being carried out at all ground mounted secondary substations. Ground mounted secondary substations are inherently located close to customers and public areas and therefore carry greater risk should fire occur. Especially within urban areas, secondary substations can be located adjacent to, adjoining to or embedded within occupied buildings. Where this is the case, compliance with fire and building regulations is imperative to maintaining safety

Following FRAs completed in RIIO-ED1, it was noted that a significant number of substations required remedial actions to reduce fire risk to acceptable levels. The RIIO-ED2 strategy assumes that substations which are classed as being higher risk shall require action close out following completion of an FRA, based on these RIIO-ED1 findings.

By completing FRAs at all substations within RIIO ED2, SPEN shall have a comprehensive and up-to-date view of fire risk level at all sites. This shall allow identification of sites and prioritisation of action close out at the highest risk sites first. In addition, the frequency of reviewing the FRAs for each site shall also then be set based on the current risk, in line with SPEN's Fire Protection Policy (SUB-01-012). Multi-price control delivery of FRAs was not deemed acceptable as this would risk sites with significant fire risk not being assessed and identified. The close of actions from FRAs will form a multi-price control programme of works with the highest risk sites being intervened on first.

It is expected that the volume of necessary actions raised by the FRAs within RIIO-ED2 will far exceed the forecast volumes included for action close out in this submission. This is in line with SPEN's strategy to understand the full network risk level, target reducing risk at highest priority sites and continue lower priority risk reduction into future price controls. This strategy follows similar principles to the existing Asbestos management programme, which has been delivered to its current position over multiple price controls, to manage and reduce overall risk and complete necessary inspections & interventions across all substations.

At substations with outstanding fire risk actions/defects, where other significant intervention takes place within RIIO-ED2, all actions/defects shall be closed out alongside these other proposed works.

Examples of such programmes of work include plant replacement (non-load / load) and condition driven civil refurbishment

FRAs are to be delivered using a framework contractor (Specialist Fire Consultant) as set out in section 6.3 of the EJP. Our current framework contractor has experience in delivering FRAs at widescale volumes for other large volume asset owners, including DNOs. FRA action close out shall be delivered by framework contractors in a continuation from RIIO-EDI.

3.2.2 Fire Systems Interventions

Fire detection systems are critical to maintaining safety within substation buildings and avoiding the risks set out within Section 3 of the Fire Mitigation EJP. SPEN's Fire Policy SUB-01-012 ensures compliance with regulatory and legislative requirements as set out in Section 2.1 of the EJP. Our higher voltage substations have buildings which can often include multiple rooms, which therefore require fire detection systems to protect personnel or contractors when working within the building. Furthermore, fire detection is also essential to early detection of plant failure or fires occurring which could impact plant and lead to loss of supply. It is therefore essential that fire detection systems are installed where required, to the correct standard and can be monitored in real-time to allow early response and reduce impact where possible.

As outlined within the Fire Mitigation EJP and SQ responses, SPEN's fire systems volumes within RIIO-ED2 are directly linked to the Site Security Systems upgrade works at 132kV (grid) and 33kV (primary) substations including real-time monitoring capability through ScottishPower's Alarm Receiving Centre. The review undertaken by SP Corporate Fire and Security identified that intervention was necessary at our higher voltage substations with a varying level of upgrade, installation of new or replacement of existing fire detection systems to comply with policy

The proposed fire system upgrade programme within RIIO-ED2 is driven by the need for intervention at our highest priority sites at deliverable volumes across a multi price control strategy. The proposed programme volumes take account of refurbishment and design life of the systems, in addition to the alignment of the programme with the need for site security system upgrades to minimise overall risk at our substations sites.

4 Appendix

The content of this appendix has been redacted.