# Condition Driven Civils

## ED2 Engineering Justification Paper Addendum

## ED2-NLR(A)-SPEN-002-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 - CV10 – Condition Driven Civils | | | |
| **PCFM Cost Type** | Non-Load Related - Other | | | |
| **Activity** | Condition Driven Civils | | | |
| **Primary Investment Driver** | Maintaining condition of civil assets ensuring a safe and secure environment. | | | |
| **Reference** | ED2-NLR(A)-SPEN-002-RES-EJP-ADD | | | |
| **Output Type** | Condition Driven Civils | | | |
| **Cost** | **SPD** | £17 734m | **SPM** | £13 921m |
| **Delivery Year** | 2023-2028 | | | |
| **Reporting Table** | CV10 | | | |
| **Outputs included in ED1** | ~~Yes~~/No | | | |
| **Business Plan Section** | Ensure a Safe & Reliable Electricity Supply | | | |
| **Primary Annex** | Annex 4A.15: Civils and Flooding Strategy | | | |
| **Spend Apportionment** | **ED1** | **ED2** | **ED3** | |
| | **£m** | **£31.655m** | **£m** | |

| | Proposed by | Endorsed by | Approved by |
|---|---|---|---|
| **Name** | David Cupples | Alex Campbell | Russell Bryans |
| **Signature** | David Cupples | AR Campbell | |
| **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 002-RES EJP Condition Driven Civils EJP following receipt of RIIO-ED2 Draft Determination The content of this 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 We agree with the needs case presented by SPEN However, we consider the volume and cost of interventions proposed to be uncertain, as the scope of works on a site-by-site basis is yet to be determined.

**Ofgem Identified Risks** - The specific scope of works have not yet been confirmed, therefore there is a risk of a significant difference to the final expenditure in relation to these works.

## 2.2 Draft Determination Supplementary Questions (SQs) (Raised by SPEN)

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.

**SPEN Submitted SQ_DD_016 (25/07/2022)**

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"We agree with the needs case presented by SPEN. However, we consider the volume and cost of interventions proposed to be uncertain, as the scope of works on a site by site basis is yet to be determined. The specific scope of works have not yet been confirmed, therefore there is a risk of a significant difference to the final expenditure in relation to these works."

**Do Ofgem's comments apply to the 'condition driven higher-volume' component of the EJP, the 'major civil scheme' smaller component (e.g. Flemington Street, Cowgate, Frodsham etc.), or both?**

**Ofgem Response to SQ_DD_016 (08/08/2022)**

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Our comments regarding uncertainty apply to the 'condition driven higher-volume' aspect of the EJP and not the project specific works. We welcome the additional information SPEN suggest and will be considered if provided We note that SQs on this subject were submitted after the cut off for our internal review, which we will consider in our final review

# 3 Additional Justification

## 3.1 Summary of any Ofgem SQs

SPEN responded to two SQs (SPEN020 & SPEN081) issued by Ofgem on 26/01/2022 & 28/02/2022 respectively. The responses have been appended in Section 4 for reference. SPEN's responses to these SQs provided further clarification and details on the following points:

- Detailed Civil Surveys
- Civil health at secondary substations
- Photographs of example substations with civil health scores of HI1 to HI5.
- Average rates of defects found at each voltage
- Percentage of plan driven by recorded defects
- Clarification where sites with civil health score HI3 or less may be intervened on within RIIO-ED2
- Clarification on the basis for unit costs submitted.

## 3.2 Additional Supporting Information

Condition of civil assets at substations is vitally important to maintaining safe and secure sites for our staff and members of the public as well as resilience of the network As set out within Section 5 1 1 of Condition Driven Civils EJP the cost of civil intervention at substations can vary dependant on the construction type, age and degradation of the building and civil assets. Examples of real costs of interventions were provided within Appendix 2 of the EJP to evidence the levels of expenditure that can be experienced in a 'typical' CV10 intervention. These examples are from delivered interventions within RIIO-ED1 and show that typical costs are in the region of our forecast unit costs with variances above and below.

SPEN recognise that not all CV10 interventions are the same and forecasting the full intervention costs on a site by-site basis was not practical, given the high volume of proposed interventions, level of data collected, and continual update of data from ongoing inspections.

Therefore, the approach adopted was to assess available defect data using the Site Health Index rating process set out within Section 2.1 of the EJP to forecast volumes of intervention required at each voltage level. Furthermore, historic reporting of costs and volumes were assessed to understand SPEN

average unit costs experienced in RIIO-ED1. The proposed unit costs were then reviewed against industry historic reporting in RIIO ED1 as presented in Figures 11 14 in the EJP Further clarification around unit costs was provided to Ofgem in response to SQ SPEN081 as appended below

As a result of ongoing inspection of our substations and civils assets, coupled with asset deterioration, new defects are being recorded and substation site health index ratings updated. This results in substations moving into the higher index ratings driven by new defects at the same time as substations moving to lower index rating because of interventions. Civils condition driven intervention is therefore a continuous programme which is updated regularly and prioritised to ensure investment on the poorest condition assets and sites.

SPEN's approach within RIIO-ED2 is to intervene on volumes equivalent to all HI5 and majority of HI4 sites within RIIO-ED2 based on the snapshot of data taken for final submission. This approach also keeps volumes consistent from RIIO-ED1 where the SPEN's condition driven civil strategy is already implemented. This shall be carried out by prioritising poorest condition (HI5) substations in delivery using the latest available defect data to calculate site health index ratings. This prioritised site condition driven approach shall be delivered alongside the integrated modernisation programme, individual hazard/defect clearance programme, and rationalisation driven interventions as set out in Section 5 1 1 of the EJP

SPENs combined approach to delivery of condition driven civil volumes will ensure intervention on the right civil assets and building. The ensures the correct environment is maintained for our critical network assets and improves safety and security which all contributes towards overall network resilience.

Taking account of the approach within RIIO-ED2 for the civil condition driven programmes, the costs and volumes submitted are the minimum required to manage civil asset condition. Although site-by-site costs cannot be certain, SPEN believe the approach taken using a combination of historic unit costs and industry averages provides sufficient confidence in the overall condition driven investment costs.

Within period, regular tracking of site health index rating profiles shall allow for further optimisation of investment as well as planning into future price controls.

# 4 Appendix

The content of this appendix has been redacted