# NATIONAL GRID ELECTRICITY TRANSMISSION

# NETWORK OUTPUT MEASURES METHODOLOGY - STAKEHOLDER CONSULTATION

# 01/06/2021

## Consultation Background

Please send any feedback toBox.ETAM.NOMsConsultation@nationalgrid.com by 2nd July 2021.

**Scoring of Cable Systems**

The RIIO-2 business plan made cable intervention recommendations for several circuits otherwise exhibiting low End-of-life modifiers. Evidence linking operational behaviour contributing to deterioration and civil engineering factors were cited as the reasons for these assets inclusion in the business plan. Feedback from Ofgem during the Supplementary Questions of Summer 2020 recommended modifying the asset health scoring mechanism to incorporate these factors, as these factors do not currently contribute to the evaluation of risk. The proposed changes to the Network Asset Risk Annex facilitate these recommendations.

These changes have no impact upon the content of the RIIO-2 business plan, and serve to better reflect the risk reported on these circuits.

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| **Section 8.2.3.4, Duty & Cycling** | **Rationale for change**A minority of cable circuits undergo heavy thermal cycling and/or frequent operational switching. These factors are known to contribute to end-of-life deterioration of cable systems. Where a cable is identified by exception as having risk arising from these issues, the modifier is elevated by 10 to address the accelerated deterioration of these installations. |
| **Section 8.2.3.10, Cable Main Information** | **Rationale for change**The technical specifications for cable oversheath are relatively flexible and give manufacturers a broad range of options to solve the oversheath requirement. Hard oversheath is more resistant to water but can be vulnerable to fracturing; whereas a soft oversheath less resistant to water but more resilient to movement. Abrasion is a risk to any oversheath. Where a circuit is identified as having problems arising from these materials, the score is adjusted by 10 to reflect their presence. |
| **Section 8.2.3.11, Sub-Asset Information** | **Rationale for change**A minority of cable installations have a history of problems arising from their laying environment; specifically geophysical threats associated with flooding, subsidence, the condition of cable bridges, and the medium in which the cable is installed. The subsidence risk is predominantly associated with cables installed in railway embankments. Note that replacement is not necessarily the optimal intervention. Evaluating these factors within the monetised risk framework facilitates prioritisation of threats to network reliability. Scoring for subsidence is between 0 and 35, by severity. |

### Circuit Breaker Scaling Factor C1

This change is a correction to the text concerning the C1 scaling factor applied to circuit breakers. The Calibration, Testing and Validation (CTV) exercise established this value to be 80.

This change has no material impact on any data submitted to date, it has been used throughout the RIIO-2 business plan and associated analysis.

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| **Previous Text, Section 8.2.1.7**Based on this approach the parameter is fixed as $C1=5/6$. | **Proposed Change**The scaling factors were further refined during the calibration, testing and validation exercise.Based on this approach the parameter is fixed as $C1=80$ |

### Long Term Risk Benefit (LTRB) Methodology (Section 9)

This section details the NGET implementation of the Long-term Risk Benefit calculation, an important component of the Outputs measured in RIIO-2.

A method to determine Long term risk benefit is required for the purposes of evaluating the benefit of replacement work conducted during RIIO-2; by the terms of the transmission license. The analytical method given in NARA issue 5 was proposed by Ofgem, to address the specific requirements of the NGET asset population.

Please see the issue 5 draft NARA accompanying this consultation document for the full text.

Thank you for taking the time to read the associated documentation and provide feedback.