

**SP ENERGY NETWORKS**  
**Network Planning and Regulation**  
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**Network Output Measures  
Consultation  
Scottish NARA**



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## 1. Purpose and Scope

SP Transmission along with the other onshore Transmission Licensees has an obligation to review the Network Output Measures (NOMs) methodology and associated documentation, including the Network Asset Risk Annex (NARA) at least once a year, in accordance with Special Licence condition 2L of their Transmission Licence.

The Licence also requires the Transmission Owners to undertake stakeholder consultation and where appropriate reflect stakeholder representations in our methodology.

This document outlines the proposed modifications to the NOMs Methodology, the consultation exercise undertaken, the responses received, and the amendments made to the methodology based on these responses.

## 2. Proposed modification

The Electricity Transmission Network Outputs Methodology consists of three main documents:

- a Common Methodology
- a Network Asset Risk Annex (NARA) and
- a Licensee Specific Appendix (LSA)

The Common Methodology outlines the fundamental approach to the calculation of Asset Risk. Whilst the Network Asset Risk Annexes outline the implementation of this calculation. There are two NARA documents one outlining the NGET implementation another the SPT/SHE-T implementation. In addition to these documents there are three individual Licensee Specific Appendices (LSAs), which provide further detailed information on the individual TO implementation and TO specific data elements.

During the calibration, testing and validation (CTV) process; an error in the licensees formulae for Probability of Disconnection and Duration for  $X_{min} = 1$  within the System Consequence calculation was discovered. As the System Consequence calculations are common to both implementations, the proposed changes impact the NARA documents and the TOs agreed to jointly consult on these changes. NB: NGET have also separately within their own consultation documents sought views on changes required to their LSA.

### Probability of Disconnection, $P_{oc}$

<p><b>Existing Equation 61</b></p> <p>For <math>X_{min} = 1</math>, <math>P_{oc} = 1 - NoNdNmNf</math></p>
<p><b>Proposed change</b></p> <p>For <math>X_{min} = 1</math>, <math>P_{oc} = Pd + NdPo + NoNdPm + NoNdNmPf</math></p>

There are no changes for  $X_{min} = 0, 2$  or  $3$ .

## Customer Disconnection Duration, $D$

### Existing Equation 65

For  $X_{min} = 1$ ,

$$D = [\min(D_{fm}, D_o)P_o + \min(D_{fm}, D_d)P_d + \min(D_{fm}, D_f)P_f + \min(D_{fm}, D_m)P_m] / P_{oc}$$

### Proposed change

For  $X_{min} = 1$ ,

$$D = [\min(D_{fm}, D_d)P_d + \min(D_{fm}, D_o)N_dP_o + \min(D_{fm}, D_m)N_oN_dP_m + \min(D_{fm}, D_f)N_oN_dN_mP_f] / P_{oc}$$

### 3. Stakeholder Consultation

The three Electricity TOs ran a consultation on the proposed changes to the Network Outputs methodology from the 24<sup>th</sup> August to 21<sup>st</sup> September 2020. The consultation was published on each of the three TOs websites and an e-mail communication was sent to stakeholder contacts alerting them to the consultation.

The consultation posed two questions;

1. Do you agree to the proposed corrections to equations 61 and 65? and
2. If you do not agree, can you please provide reasons [for your answer]?

Following closure of the consultation the three TOs held a conference call to discuss any responses received and agree what changes (if any) were required to the Methodology based on these responses.

At this call it was noted that no responses had been received by any of the TOs and therefore no changes to the proposed modifications were required.

### 4. Changes made as a consequence of the representation

As noted above, no responses were received and consequently no changes are proposed to those outlined in section 2 above.

### 5. Better facilitation of the NOMs objectives

The proposed changes were identified during the Calibration, Testing and Validation exercise and have already been implemented, with the agreement of Ofgem to ensure that the results of the rebasing exercise did not reflect the errors contained within the formulae.

The CTV exercise amongst other tests, included a what-if analysis by setting all the inputs to the Probability of Disconnection and Duration of Disconnection values to 1. These formulae as presented in the current version of the NARA returned an unexpected output indicating an error. The corrections proposed rectify this error and ensure that the outputs were as expected.

The change to the determination of Probability of Disconnection and Duration of Disconnection, for circuits with a low degree of redundancy i.e. those where  $X_{min} = 1$ ; are necessary to ensure the correct expression of risk.

Therefore, ensuring that the methodology correctly represented the relevant system risks better facilitated the NOMs objectives.

## **6. Presentation of data and other relevant information**

Not applicable

## **7. Changes to network replacement outputs**

Functionally, the changes to the text proposed were implemented during CTV and therefore they have no material impact upon previously published data concerning the use of monetised risk. The NARA documents explain the different approaches used within each organisation to deliver the overall NOMs methodology

## **8. Timetable for implementation**

The changes proposed have, following discussion with Ofgem already been implemented within our processes this was to ensure that they could be reflected within the rebasing our existing targets to equivalent monetised risk targets and within the RIIO T2 Business Plans. A revised SPT / SHE-T NARA incorporating the equation changes has been submitted alongside this report.