



Scottish & Southern
Electricity Networks

SHE Transmission Network Output Measures (NOMs) Modification Report

As per the requirements under Special Licence Condition 2L

25th September 2020



NOMs Methodology Modification

Overview

Under the RIIO (Revenue = Incentives + Innovation + Outputs) price control framework, the network companies' performance is assessed by the regulator (Ofgem), using a set of primary outputs and associated secondary deliverables. Secondary deliverables are leading indicators which allows Ofgem to monitor network companies' long-term performance. The Network Output Measures (in particular, the network assets condition measure, the network risk measure and the Network Replacement Outputs) help to quantify the impact of the network companies' network expenditure.

The Network Output Measures (NOMs) Methodology is designed to show that the three transmission companies are providing consumers with long-term value for money. It provides a joint basis for measuring asset risk which is designed to direct investment in the right areas, enabling effective management of network risk. Using a risk-based approach, the transmission companies will assess their asset base and direct investment in order to control the risk those assets present to the network, to health & safety, and to the environment. This will ensure the transmission companies will continue to deliver their primary outputs in the future.

The current version of the Transmission NOMS Methodology is Version 18 and reflects in its consequence calculation the impact arising from System, Safety, Environment and Financial consequences arising from the failure of an asset. The current version can be found here: <https://www.ofgem.gov.uk/publications-and-updates/decision-not-reject-modified-electricity-transmission-network-output-measures-noms-methodology-issue-18>

NOMs Methodology Modification

SpC 2L.11 (a) a statement of the proposed modification to the NOMs Methodology

SHE Transmission is obliged 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. This licence consultation also allows us to modify the NOMs methodology from time to time to facilitate better achievement of NOMs Methodology Objectives.

This report is providing a statement of the proposed modification to the NOMs Methodology and any potential impacts which this modification will have for the TOs, Ofgem or stakeholders as required under SpC 2L.10(b) and 2L.11.

The three transmission companies whilst implementing the Network Asset Risk Annex (NARA) of the Methodology, identified an error had been made to two equations which contribute to the overall System Consequence calculation, these errors included an error in the licensee’s formulae for Probability of Disconnection and Duration for $X_{\min} = 1$.

As System Consequence is a common section across all three transmission companies, a consultation was jointly undertaken on the changes needed to the Methodology NARA to correct both formulae.

The proposed changes to the NOMs methodology are outlined in the section below.

Proposed modifications to the NOMs methodology

SpC 2L.11 (a) a statement of the proposed modification to the NOMs Methodology

Probability of Disconnection, P_{oc}

Existing Equation 61 of SHE Transmission’s NARA	Proposed change
For $X_{\min} = 1$, $P_{oc} = 1 - NoNdNmNf$	For $X_{\min} = 1$, $P_{oc} = Pd + NdPo + NoNdPm + NoNdNmPf$

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

Customer Disconnection Duration, D

Existing Equation 65 of SHE Transmission’s NARA	Proposed change
For $X_{\min} = 1$, $D = [\min(D_{fm}, D_o)P_o + \min(D_{fm}, D_d)P_d + \min(D_{fm}, D_f)P_f + \min(D_{fm}, D_m)P_m] / P_{oc}$	For $X_{\min} = 1$, $D = [\min(D_{fm}, D_d)P_d + \min(D_{fm}, D_o)N_dP_o + \min(D_{fm}, D_m)NoNdPm + \min(D_{fm}, D_f)NoNdNmPf] / P_{oc}$

NOMs methodology modification consultation

process

SpC 2L 11. (b) a full and fair summary of any representations that were made to the licensee pursuant to paragraph 2L.10(a) of this condition and were not withdrawn;

SpC 2L 11. (c) an explanation of any changes that the licensee has made to its modification proposal as a consequence of representations;

On the 24th August 2020 a public consultation was launched on the proposed changes to the NOMs methodology, inviting any interested parties to make written representations regarding the proposed modifications. This can be found here: <https://www.ssen-transmission.co.uk/information-centre/industry-and-regulation/network-output-measures/>

The consultation closed on 21st September with no responses received. Therefore, the proposed modifications have been progressed, unchanged from this consultation.

Impact of the proposed modifications to the NOMs methodology

SpC 2L 11. (d) an explanation of how, in the licensee's opinion, the proposed modification, if made, would better facilitate the achievement of the NOMs Methodology Objectives;

SpC 2L 11. (e) a presentation of the data and other relevant information (including historical data, which should be provided, where reasonably practicable, for a period of at least ten years prior to the date of the modification proposal) that the licensee has used for the purpose of developing the proposed modification

SpC 2L 11. (f) a presentation of any changes to the Network Replacement Outputs, as set out in the tables in Special Condition 2M (Specification of Network Replacement Outputs), that are necessary as a result of the proposed modification to the NOMs Methodology;

As outlined above, an error was identified in the licensee's formulae for Probability of Disconnection and Duration for $X_{\min} = 1$ within the System Consequence calculation during the calibration, testing and validation (CTV) process. This change has already been implemented within the NOMs calculations, the licensees are proposing this modification to the text of the NARA to correct the documentation of the NOMs methodology and better facilitate the achievement of the NOMs Methodology Objectives.

The CTV process included a what-if analysis by setting all the inputs to the Probability of Disconnection and Duration of Disconnection values to 1. The formulae included in the previous versions of the NARA returned an unexpected output indicating an error. The corrections proposed correctly return the expected values through the CTV process.

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.

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.

The proposed NOMs methodology modification will have no impact to the current Network Replacement Outputs, as set out in the tables in Special Condition 2M (Specification of Network Replacement Outputs) and has been included in the calculations of the Rebased Network Replacement Outputs and so will have no effect.

Revised text for the NARA is to be published within 28 days of submission of this report to Ofgem, unless the Authority issues a direction not to implement the proposed modification as per 2L.12.

Timetable for the implementation of the modifications

SpC 2L 11. (g) a timetable for the implementation of the proposed modification, including an implementation date (which must not be earlier than the date on which the period referred to in paragraph 2L.12 of this condition would expire).

The consultation closed on 21st September with no responses received and the changes to the text proposed were implemented during CTV process.

Revised text for the NARA is to be published within 28 days of submission of this report to Ofgem, unless Ofgem issues a direction not to implement the proposed modification as per 2L.12.