The Voice of the Networks

DNO Common Network Asset Indices Methodology

SLC 51 Part I Consultation

3 February 2017

Common Network Asset Indices Methodology Proposed Modifications – Standard Licence Condition 51 Part I Consultation

1 Purpose and Objective

The purpose of this consultation is to seek the views of Stakeholders as to the proposed changes to the Common Network Asset Indices Methodology from Version 1.0 (as directed for implementation by Ofgem in October 2016) and the DNO community Version 1.1 as currently proposed.

1.1 Executive Summary

Standard Licence Condition (SLC) 51 of the RIIO-ED1 price control requires the Distribution Network Operators (DNOs) to 'use all reasonable endeavours…to ensure that by 1 July 2015 the Common Network Asset Indices Methodology (CNAIM) has been submitted for approval by the Authority'.

The objectives of the CNAIM are to;

(a) facilitate the achievement of the Network Asset Indices Methodology Objectives;

(b) enable the objective evaluation of performance against the Network Asset Secondary Deliverables;

(c) be implemented by the licensee through appropriate amendment of its own Network Asset Indices Methodology in accordance with the provisions of Part A of this condition; and

(d) be capable of being modified from time to time in accordance with the provisions of Part I of this condition. [1]

DNOs worked collectively to develop a proposal for the CNAIM and submitted this to Ofgem for approval on 1 July 2015 ('version Draft V3'). This set out an approach that allowed for the assessment of the health of assets which was converted to a Probability of Failure (PoF) value. This is then combined with an assessment of the Consequences of asset Failure (CoF) to produce an overall risk score for each asset within the scope of the Methodology. These risk scores are additive and form the basis for an overall view of both current and future network health.

Following a period of public consultation, Ofgem directed further refinement and development of the proposed methodology which resulted in a revised proposal being tabled by the DNOs in December 2015 ('version Draft V4'). Following a further review, Ofgem approved and Directed the Methodology in February 2016, whilst requesting a number of minor updates to the text of the document.

Ofgem approval triggered a requirement to implement the changes to the Methodology within 26 weeks of the date of the Direction or any later date specified by the Authority, which was specified as 30 December 2016, due to the requirement to make the minor updates to the Methodology. The DNOs then developed the requisite data structures and

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[1] 51.6 in
https://epr.ofgem.gov.uk//Content/Documents/Electricity%20Distribution%20Consolidated%20Standard%20Licence%20Conditions%20-%20Current%20Version.pdf

modelling capabilities to enable this to occur. DNOs were also directed to re-submit the associated Network Asset Workbook (NAW), which states the associated Network Asset Secondary Deliverables (NASD) targets for the RIIO-ED1 period (April 2015 – March 2023), by 30 December 2016.

During the course of implementation, a number of minor amendments were made by the DNOs to correct for errors or omissions in version Draft V4 of the Methodology. These were Directed for implementation by Ofgem following a public consultation in August 2016 and V1 of the Methodology was subsequently published.

Following the Direction of Version 1, the DNOs have submitted to Ofgem their restated Network Asset Workbooks and associated supporting documentation by the 30 December 2016. In consultation with Ofgem post the submission, it was identified that the Methodology was overstating the perceived risk associated with EHV and 132kV Steel Towers and Oil Filled Cables, leading to these asset classes having a disproportionate impact on the overall RIIO-ED1 targets.

The DNOs have reviewed the manner in which the Probability and Consequence of Failure values are calculated for these asset classes and are proposing updated figures for inclusion within V1.1 of the Common Network Asset Indices Methodology.

It is Ofgem's view that these changes constitute a further modification to the Directed Methodology and hence need to go through the change control process set out in part I of SLC51. This requires a consultation on the proposed changes followed by a report to Ofgem. If Ofgem do not issue a direction not to implement within 28 days of the receipt of the report, then the changes are deemed agreed.

The requirements for the report are set out in SLC51.25.

This document sets out for statutory consultation our proposed changes to the Common Network Asset Indices Methodology.

All DNOs have worked collectively on the development of the Methodology and its implementation. The proposed changes have been raised, reviewed and agreed in a DNO Working Group and these proposals are tabled on behalf of all licencees.

It is our recommendation that the Methodology is duly approved with these amendments incorporated.

The consultation is issued on behalf of the following Company's that, between them hold the fourteen GB Electricity Distribution licences:

Electricity North West
Northern Powergrid
Scottish and Southern Distribution
Scottish Power Energy Networks
UK Power Networks and
Western Power Distribution

2 Background

2.1 Chapter Summary

This chapter provides an overview of the development of the Common Network Asset Indices Methodology, the proposed changes and our proposed next steps.

2.2 Requirement for a Common Network Asset Indices Methodology

The requirement for a CNAIM grew out of the development of Health Indices in the previous electricity distribution price control (DPCR5), and the use of Criticality (ie the relative consequences of an asset's failure) as an input to the calculation of asset risk for the RIIO-ED1 price control submissions.

The requirement to develop a common approach to the measurement of condition-related risk was set out in Standard Licence Condition 51 of the RIIO-ED1 licence;

https://epr.ofgem.gov.uk//Content/Documents/Electricity%20Distribution%20Consolidated%20Standard%20Licence%20Conditions%20-%20Current%20Version.pdf

The CNAIM is required to be suitable to achieve the specified Network Asset Indices methodology Objectives set out in Part D of the condition;

The Network Asset Indices Methodology Objectives are that compliance with the Common Network Asset Indices Methodology enables:

(a) the comparative analysis of network asset performance between Distribution Services Providers over time;

(b) the assessment of the licensee's performance against the Network Asset Secondary Deliverables; and

(c) the communication of information affecting the Network Asset Secondary Deliverables between the licensee, the Authority and, as appropriate, other interested parties in a transparent manner.

2.3 Approach to methodology development

2.3.1 Working Group

The DNOs created a Working Group comprising members of each of the six DNO Groups, supplemented by specialists from EA Technology. Ofgem representatives had a standing invite to the Group and frequently attended the sessions. In addition, bilateral and multilateral presentations were made to Ofgem staff during the course of methodology development.

The Group successfully delivered a draft Methodology to Ofgem on 1 July 2015 in line with the licence requirement.

2.3.2 Methodology consultations

August 2015 consultation
Following internal review, Ofgem undertook a public consultation on the DNOs' proposals;

https://www.ofgem.gov.uk/publications-and-updates/consultation-distribution-network-operators-dnos-common-network-asset-indices-methodology

This concluded that a number of changes were required and Ofgem issued a Direction to that effect in October 2015;

https://www.ofgem.gov.uk/publications-and-updates/dno-common-network-asset-indices-methodology

DNOs re-convened the Working Group and developed a revised version of the Methodology. This also incorporated the learning from further testing and calibration work to refine the detail of the calculations. This testing was based on early prototype models which mimicked the logic of the Methodology.

The DNOs subsequently submitted a revised version of the Methodology in December 2015, addressing the requirements of the October 2015 Direction.

February 2016 Direction
After review of the modified Methodology, Ofgem deemed that it met the requirements of SLC51 and Directed its implementation on 1 February 2016;

https://www.ofgem.gov.uk/publications-and-updates/decision-dno-common-network-asset-indices-methodology

The Direction included a small number of requested narrative enhancements to the Methodology document.

October 2016 Revision
The DNOs commenced implementation of the revised methodology and during this period identified a series of other minor changes which also required amendments to the methodology. Ofgem identified that these changes constituted a change under SLC 51 Part I and as a result the DNOs ran a further public consultation in August and September 2016.

As a result of this consultation no responses were received and in October 2016 Ofgem Directed that the Methodology (Version 1) dated 1 August 2016 be adopted.

2.3.3 Experience of implementation

In implementing Version 1, the DNOs have been able to complete the re-submission of the Network Asset Workbooks and associated supporting documents which were submitted to Ofgem for consideration by the 30 December 2016.

The process of NAW completion and review has identified that the current Probability and Consequence of Failure values for Towers and Oil Cables results in an over-statement of the risk for these asset classes, and leads to them having a disproportionate contribution towards the overall RIIO-ED1 risk targets. Following representations by the DNOs Ofgem agreed to a review of these values, the results of which are set out in this document.

2.3.4 Structure of this document

Chapter 3 sets out the detailed changes that have been made from the version of the document Directed by Ofgem in October 2016.

It should be read alongside the updated version of the Common Network Asset Indices Methodology published in conjunction with this consultation.

3 Questions

3.1 Chapter Summary

This chapter lists the changes made from the Directed methodologies and identifies those considered as modifications to the Methodology.

3.2 Questions

Question 1: Do you agree that the changes now proposed constitute an appropriate Modification to the Methodology?

In responding to the question, please provide an explanation or reasoned argument together with any additional supporting evidence you have in support of your opinion.

There are three changes from the version of the Methodology Directed by Ofgem in October 2016 and they are listed in the table below.

All three changes are designed to better quantify the level of risk as a result of an asset failure and hence the relative risk exposure of a company when compared to other asset classes within the methodology.

Changes 1 and 2 propose a revision of the value of k (in this proposal a reduction) which results in the value of the calculated Probability of Failure for an asset being reduced, whilst keeping the fundamental shape of the curve across all asset types, a fundamental design criteria of the methodology. Equation 1 (Page 30) illustrates this principle.

In Change 3, the average consequence of failure associated with the Network Performance of the asset is reduced and hence the total consequence is reduced.

All three changes are designed to reduce the risk associated with an asset related failure by reducing the values of Probability and Consequence and thus Risk (Probability x Consequence). In the opinion of the DNOs, these revised values better reflect the proportion of asset risk they have and are required to manage for these asset types when compared to the basket of assets modelled within the wider methodology.

Revisions to Version 1 proposed in Version 1.1

Change	Document Ref	Changes Description	Change Logic
1	Table 21 Page 106	The value of k for Pressurised Cable (EHV UG Cable (Oil) and 132kV UG Cable (Oil)) has been revised to 2.0944% from 3.7754%	In creating the value of k for this asset category it was observed on review that the range of interventions being used to create the calculation varied significantly between companies. This resulted in an overstatement of the risk and hence the value has been recalculated using the median. This has the effect of excluding data outliers.

2	Table 21 Page 106	The value of k for Towers has been revised to 0.0545% from 0.0879%	Failures of these asset types are rare and the data used to calculate the value of the k factor suffered from the same observed problem as Change 1. This resulted in an overstatement of the risk and hence the value has been recalculated excluding data outliers.
3	Table 227 Page 179	The Value of Coincident fault per hour for 33, 66 and 132kV Towers has been reduced to 0.05% from 1%. This has a consequential impact on the Reference Cost of Failure.	Examination of fault records indicates that the initial value of 1% overstated the "as found" situation. A change to the value of 0.05% better reflects DNO experience that very few of the functional failures in the data set would lead to a double cct outage (than previously assumed).

4 Responses

Responses should be submitted to the ENA secretariat by 3 March 2017 no later than 17.00hrs to regulation@energynetworks.org. Alternatively submissions by post as detailed below must be received by the same time at the address below.

Electricity North West Limited
Head of Asset Management
Hartington Road,
Preston,
PR1 8AF

This proposal is tabled on behalf of the licencees listed on page 3 but is hosted on Trade Association's website.

Unless clearly marked **confidential**, all responses to the consultation (regardless of original media) will be published on the Electricity Networks Association website until 31 March 2017. After that date copies of the consultation responses can be obtain by writing to:

Electricity North West Limited
Asset Management Modelling Manager
Floor 3
Hartington Road,
Preston,
PR1 8AF

and providing either a return postal or e mail address.

5 Next Steps

5.1 Chapter Summary

This chapter sets out the next steps in the process for enacting the proposed changes to the Common Network Asset Indices Methodology.

After the closing date has passed, the six GB DNOs (see page 3) who are mandated to conduct this consultation will consider the responses received. A report summarising the responses, together with copies of all received documents will be sent to Ofgem who may either direct the revised Common Network Asset Indices Methodology be adopted or Direct that the existing Methodology continue to be implemented. Our proposed timetable for the entire consultation is shown below:

	Date
Consultation published on Electricity Networks Association website	3 February 2017
Consultation closes	3 March 2017
DNOs present report to Ofgem on proposals and responses to the consultation	No later than 17 March 2017. Please note the DNOs are aiming to complete this by 10 March 2017
Ofgem objection period lapses and modifications deemed to come into force	No later than 14 April 2017. Please note Ofgem and the DNOs are aiming to complete this by 31 March 2017