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## **Notice of our decision to direct modifications to the Common Network Asset Indices Methodology under Part C of SLC 51**

We recently consulted on our minded-to position<sup>1</sup> that the electricity distribution network operators (DNOs) should carry out further work on the Common Network Asset Indices Methodology for defining and measuring the health and criticality of their network assets (common methodology). While the submitted methodology in most respects met the requirement under standard licence condition (SLC) 51 Part C, we considered further work was needed to fully meet the requirements including work to test the calibration of the methodology. After considering responses to the consultation we are directing the DNOs to modify the submitted methodology in accordance with the provisions we have set in the direction.

The direction takes effect from 23 October 2015, and the updated methodology should be submitted to the Authority by 15 December 2015.

### **1. Background**

The RIIO-ED1 electricity distribution licence requires the DNOs to have a Common Methodology for asset health, criticality and monetised risk. Under standard licence condition 51, the licensees had to work together to develop and submit a Common Network Asset Indices Methodology by 1 July 2015.

As part of the RIIO-ED1 price control review, DNOs provided forecasts of their asset health and criticality positions "with intervention" and "without intervention". We used these to create secondary deliverable targets, or deltas, setting out the required improvement in asset health, criticality and monetised risk.

We received the DNOs' Common Network Asset Indices Methodology on 1 July 2015 and assessed it based on predefined criteria. The objectives of the common methodology, the assessment criteria and results were published in the consultation document.

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<sup>1</sup> <https://www.ofgem.gov.uk/publications-and-updates/consultation-distribution-network-operators-dnos-common-network-asset-indices-methodology>

## 2. Responses

We received eight responses to our consultation. These were from all the DNOs, a transmission operator and a supplier. The responses have been published alongside this decision letter.

All respondents supported the development of the common methodology and most agreed with our proposed way forward.

British Gas (BG) has concerns about the re-basing of the targets. It suggested that DNOs should report on a dual basis over RIIO-ED1. It also suggested using the RIIO-ED1 period to test and improve the common methodology.

National Grid (NG) agreed with several of our proposed amendments to the methodology. It also identified areas that it feels require additional explanation. It referred to the methodology developed by the electricity transmission operators and noted that they will not need to rebase their targets as their methodology is focused on risk trade-offs around the existing agreed targets.

All DNOs agreed with our review and proposed direction. Some DNOs raised questions and concerns regarding certain proposed common methodology changes.

ENWL, WPD and SPEN questioned the need for including the validation results in Chapter 4 (point 2 of the draft direction) and suggested including the information in a separate manual.

UKPN, ENWL, WPD, SSE and NPg noted that the required risk information (point 5 of the draft direction) is already included in the RIGs and shouldn't be duplicated.

UKPN, ENWL, SSE and NPg stated that the definitions (point 8 of the draft direction) should be able to accommodate each DNO's current practices and should provide some flexibility.

## 3. Our decision

We have considered the consultation responses and decided to direct modifications to the Common Network Asset Indices Methodology under Part C of SLC 51. Based on the responses we have updated our modifications.

All issues raised and our responses are included in table 1, in Appendix 2. They are summarised below.

## 4. Reasons for our decision

No one disagreed with the principle of establishing a common methodology or with us making amendments to what the DNOs proposed, so we are going ahead with changes. We have amended the modifications based on the responses. The key points are as follows:

### Rebasing targets and dual methodology

We have considered BG's proposal that there should be no rebasing during RIIO-ED1 and that the HIs should be calculated using both methodologies in parallel. The purpose of the rebasing is to convert the existing targets to the new "currency" of the common methodology rather than to change how challenging the targets are. The process for rebasing is defined in SLC51.

We will review the DNOs' rebasing proposals to ensure that the rebased targets are as challenging. If not, we will propose revisions or ask the DNOs to revise their submissions. The current asset methodologies are on a DNOs specific basis and are not as transparent as the new common methodology. If no rebasing is carried out and the measurement of

delivered outputs is on the same basis as the existing methodology, it is highly likely that an intensive period of discussion will be required at the end of the price control period to determine whether companies have under or over-delivered. The DNOs will need to provide evidence as to the reasons behind their own belief that the outputs delivered have an equivalence of delivery. We consider that this process will be more transparent and robust using the common methodology, which will be better both for electricity customers, DNOs and other stakeholders. The transmission common methodology is also under development. While there will be no rebasing, we will ensure that the same high level principles are followed. All factors, including the effect of introducing the common methodology will be considered on assessing the performance against the secondary deliverables.

As for using RIIO-ED1 as a testing period for the methodology, we defined the objectives of the methodology and the process for updating it in SLC 51. As we stated in our draft direction, we are confident that the common methodology can meet these requirements with the additional work and refinements we have specified. We will continue to work with the DNOs to improve the common methodology. Once the common methodology is complete and the targets are rebased we intend to do further work to inform RIIO-ED2. This may include the inclusion of other assets and other types of risk such as those associated with non-condition failures. We will also look to address other issues such as high impact-low probability (HILP) and asset burn-in/infant asset mortality.

#### DNO comments

We recognise that our requirement to improve the definitions in the appendix is a significant task. We also accept that the definitions should provide some flexibility in order to be able to accommodate each DNO's current practices. The definitions should be improved while running the calibration process. Based on the calibration exercise results, for assets where there is unjustified difference between DNOs, the definitions should be clarified to achieve consistency.

The revised methodology should have a clearer explanation as to how overall risk is calculated. We accept that there is no need to duplicate the information included in the RIGs.

We are happy for the methodology to include a manual or other supporting document to include examples, details of the calibration and validation exercises and other additional information. The supporting documents should form part of the common methodology and adhere to SLC 51 provisions.

## **5. Next Steps**

The attached direction takes effect from 23 October 2015, and the updated methodology should be submitted to the Authority by 15 December 2015.

We will assess the submission and reach a decision if the common methodology meets the requirements of SLC 51 by 1 February 2016. If we find that the common methodology is still incomplete we will consider whether to substitute our own methodology under SLC 51.9.

Yours faithfully,



**Anna Rossington**  
**Head of RIIO Implementation**

**To: Distribution Services Providers**

**Direction under Part C of SLC 51 (Network Asset Indices Methodology) of the Distribution Services Providers electricity distribution licences**

1. Each of the companies to whom this Direction is addressed (the licensees) holds an electricity distribution licence (licences) under section 6(1)(c) of the Electricity Act 1989 (the Act).
2. Under paragraph SLC 51.5, the licences had to submit by July 1<sup>st</sup> 2015 their Common Network Asset Indices Methodology to the Gas and Electricity Markets Authority (the Authority) for approval.
3. As set out in SLC 51.6 the Common Network Asset Indices Methodology must
  - (a) facilitate the achievement of the Network Asset Indices Methodology Objectives set out in Part D of the condition;
  - (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 the condition; and
  - (d) be capable of being modified from time to time in accordance with the provisions of Part I of the condition.
4. As set out in SLC 51 Part D on the Network Asset Indices Methodology Objectives, the Common Network Asset Indices Methodology should enable:
  - (a) the comparative analysis of network asset performance between DNOs over time;
  - (b) the assessment of licensee DNO's performance against the Network Asset Secondary Deliverables; and
  - (c) the communication of information affecting the Network Asset Secondary Deliverables between the DNO, Ofgem and, as appropriate, other interested parties in a transparent manner.
5. The Authority assessed the methodology for compliance with the requirements of SLC 51.6 in accordance with criteria developed by the Authority in consultation with the Common Framework Working Group. We published the criteria in Appendix 1 of the notice of a proposal to make a direction under Part C of SLC 51 dated [21 August 2015].
6. Having carried out its assessment the Authority concludes that the methodology is capable of being modified in accordance with this direction in a manner which it will enable it to comply with the provisions of paragraph SLC 51.6, but, for the reasons set out at the paragraph on initial findings of the Notice of proposal requires the changes in Annex 1 to be made to it in order for it to comply with SLC 51.6.
7. The Authority gave notice under Parts C of SLC 51 (Network Asset Indices Methodology) of the licences (the Notice) on 21 August 2015 that it proposed to issue a direction in accordance with SLC 51.8.
8. The Notice required any representations to be made on or before 21 September 2015.

9. Prior to the close of the consultation period, the Authority received eight representations, which are all on the Ofgem website.
10. The Authority has considered all representations received. Its response to those representations is included in the decision letter at Appendix 2.
11. The Authority is directing the modifications so that the common methodology will be capable of complying with the provisions of paragraph SLC 51.6.

**Direction**

12. The Authority hereby directs under SLC 51C the licensees to modify that methodology, in the manner and extent specified in Annex 1 of this direction,
13. The updated methodology should be submitted to the Authority by 15 December 2015.
14. The Authority will re-assess the methodology and determine if it complies with the requirements of SLC51. If the common methodology requires further modifications the Authority will follow the provisions of SLC 51.9.
15. This direction will take effect on and from the 23 October 2015.

**Anna Rossington - Head of RIIO Implementation**



**Authorised on behalf of the  
Gas and Electricity Markets Authority**

**23 October 2015**

## **Annex 1: List of changes**

Following are the required modifications for the methodology to comply with the provisions of paragraph SLC 51.6 :

1. Run a calibration exercise. Apply the methodology to a significant sample of the licensee's asset population. According to the results update the numbers in the tables of Appendix B.
2. Run a validation exercise. Calculate the risk for certain assets and compare the answer to known risks across the network. Present the results in Chapter 4 or in a supporting document and update the tables in Appendix B, where appropriate.
3. Provide further information on risk (Chapter 5), focusing on risk reporting and risk trade-off between assets.
4. Following SLC 51 Part I, define the document management process for updating the common methodology, including version control.
5. Provide further information on asset health assessment (Chapter 4), to ensure innovations in operation and maintenance can be assimilated.
6. Provide reference/source of data (where appropriate).
7. Provide further information on how the methodology takes into account the interdependence of network assets (Chapter 7).
8. Based on the results of the calibration exercise, define or provide guidance for the health assessment terms used in Appendix B in the following Tables:32,34-36,38-39,41,42,44-46,48,51-53,56-58,61-62,64,67,68,70,72-93,97,101,110,116-125,127,166,173. Focus on the critical terms that cause unjustified inconsistencies between DNOs assets.
9. Provide further explanation of the incipient and degraded failure definitions, focusing on the distinction between these two types of failure in terms of calculating the probability of failure.
10. Provide worked examples for the methodology, as part of the supporting documentation.
11. Provide further explanation on how probability of failure is derived for linear assets.

## Appendix 2: List of issues and Ofgem’s response

No.	Comment from	Comment	Ofgem response
1	SPEN	Concerns that certain issues may not fit within the scope of the common methodology but under supporting documentation	We are happy for the methodology to include a manual or other supporting document to include examples and additional information. The supporting documents should consist part of the common methodology and adhere to SLC 51 provisions.
2	UKPN	A degree of flexibility in defining asset condition parameters is considered necessary in order to define a common framework which is both reasonably practicable to implement for all DNOs and provides comparable results. While we will seek to further define terms such as “Normal Wear” in the next revision where this is required, we believe that each DNO should specify this within their own application documents as they have different practices and data they collect for different assets. The Common Network Asset Indices must strike a balance between ensuring sufficient clarity to ensure reporting is consistent whilst allowing the development of asset management approaches by DNOs.	We accept that this is a significant task. The validation exercise should provide consistent results. For the assets where there are differences between DNOs, the definitions should be clear to avoid inconsistencies.
3	UKPN	We believe that the way in which failure consequences have been calculated considers the interdependence between assets, including a factor for co-incident failure. For example, the Network Performance Consequence of Failure for EHV and 132kV Assets (i.e. N-1 Assets) takes account of the “Probability of a coincident fault per hr”, which has been agreed by all DNOs. In addition, the impact of the failure of one asset on the propensity of another asset to fail is implicitly included in observable failure rate and hence the agreed PoF parameters (K-Factor).	Needs to be clear in the methodology and/or through specific examples
4	UKPN	The methodology creates comparable risk parameters for all reportable assets and describes how the Network Assets Workbooks should be populated. The methodology for translating this into the asset risk output value is set out in the Regulatory Instructions and Guidance and is coded into the reporting workbooks. We consider that this is the correct approach and that duplicating this is not necessary.	The revised methodology should have a clearer explanation as to how overall risk is calculated. We accept that there is no need to duplicate the information included in the RIGs.

5	UKPN	In the final sentence of paragraph 5 the licence condition number (51) is missing	Agree, corrected
6	UKPN	In paragraph 10, "extend" should be "extent"	Agree, corrected
7	ENWL	The validation exercise (point 2) requests the presentation of results against 'known risks'. There is of course no standard way of measuring such 'known risks' hence the requirement for the methodology in the first place. As such, we will be comparing against legacy DNO assessments but will not be beholden to matching the results of these historic assessments;	We agree. The methodology should provide reasonable results against historic known risks. The results should be consistent between DNOs. Matching certain "absolute" historic risks is not the scope of the methodology
8	ENWL	Point 2 also proposes the presentation of the results of the validation within the revised methodology itself. We do not consider this appropriate as the methodology needs to work on a standalone basis and the inclusion of extensive justification for the values used within the body of the document will not aid readability or understandability. We propose to document the results of the validation exercise in a separate document and include worked examples etc. within the main document	Same as No 1
9	ENWL	Point 3 requests further information on risk which we will address. We highlight however that the associated reporting requirements are documented in Annex D to the RIIO-ED1 Regulatory Instructions and Guidance and we will not plan to duplicate such content within the methodology. This point also makes reference to risk trade-off. As the methodology is a measurement framework only, it will enable such trade-offs but will not detail how they are to be performed;	Same as No 4
10	ENWL	Point 8 requests further detail on the terms used in the data tables and we will work on providing this. Please note however, that some of the definitions will be deliberately broad, both to enable varying current DNO assessment practice to be mapped to the common framework and also to accommodate future innovation in the development of new measurement and monitoring approaches (point 5 in Annex 1). We believe it is for DNOs to outline in their own methodologies how they have interpreted and mapped to these definitions.	Same as No 2



11	WPD	<p>Point 2: This point states that the results of the proposed validation exercise should be presented within Chapter 4 of the Common Network Asset Indices Methodology document. We agree that there is merit in documenting any validation works, but this should be in a separate document and not part of the Common Network Asset Indices Methodology document itself. The inclusion of details of any validation exercise within the main document, encumbers the methodology by requiring such a section to be revised for any future minor changes to the Common Network Asset Indices Methodology;</p>	Same as No 1
12	WPD	<p>Point 3: This point requires information regarding risk reporting to be provided within the Common Network Asset Indices Methodology document. The requirements for risk reporting are already defined in Annex D (Secondary Deliverables) of the RIIO-ED1 Regulatory Instructions and Guidance. Introducing this information within the Common Network Asset Indices Methodology would introduce duplication of the Regulatory Instructions and Guidance and hence create interdependencies between the two documents. This would lead to unnecessary complexity for the implementation of future changes to either document.</p>	Same as No 4
13	WPD	<p>Point 4: This point requires the process for updating the Common Network Asset Indices Methodology to be defined within the Common Network Asset Indices Methodology. This is inappropriate, as the process for future modification is defined in SLC 51, itself. We suggest that it would be more appropriate for the resubmission of the modified Common Network Asset Indices Methodology to include a proposal for document management by the DNOs to be included in supporting documentation.</p>	The process for updating the methodology is clearly stated in Part I of SLC 51. We expect to see a document management proposal (version control) for the methodology and any supporting documents

14	SSE	Change 3: Our understanding is that the Common Methodology allows for the trade-off of risks between assets and risk reporting, as determined by Ofgem through the Regulatory Instructions and Guidance (RIGs). We will work towards providing further information on risk. However, we believe it is the place of the RIGs to determine risk reporting rather than the Common Methodology. To this end, we request that the change associated with risk reporting is removed from the Common Methodology.	Same as No 4
15	SSE	Change 8: Whilst we accept the need for strong, clear definitions and will be working towards these, we would request that different asset management practices are recognised across the DNOs.	Same as No 2
	NPg	Further guidance to reduce subjectivity will be provided for health assessment terms but we will need to take care that we are not prescribing a level of detail that defines an asset management working practice which may not be appropriate or applicable across all DNOs. We do not believe that it is the purpose of methodology to define asset management inspection and maintenance condition data collection frameworks.	Same as No 2
16	NPg	The methodology has deliberately focused on the process by which a risk index is created for an asset in accordance with SLC51. The summation of individual risk indices is undertaken in the regulatory reporting tables; with guidance provided in the associated regulatory instructions and guidance document (RIGs). We believe that the purpose of the RIGs is to define how information should be fed into the regulatory process and then it is for Ofgem to define how that information is then used in the regulatory process, for example how the assessment of secondary deliverables should operate over the ED1 period. Therefore we would welcome working with Ofgem to ensure that there is no overlap or conflict between the methodology and RIGs documents.	Same as No 4

17	NPg	The process for updating the Common Network Asset Indices Methodology is contained within SLC51. Therefore we believe it would be more appropriate for the methodology to capture details of documentation management rather than details of how modifications will be made that may overlap with the contents of the licence condition.	Same as No 13
18	NG	Whilst we understand why the Distribution Network Operators will re-base their Network Risk targets using re-aligned processes and practices, it should be noted, as agreed with Ofgem, that the three Electricity Transmission Operators will not need to re-base their targets because the focus of their work is risk 'trade-offs' based around the existing agreed targets.	The rebasing process will ensure that the agreed DNO target for ED1, are "translated" accurately, based on the common methodology. The transmission common methodology is also under development. While there will be no rebasing, we will ensure that the same high level principles are followed. All factors, including the effect of introducing the common methodology will be considered on assessing the performance against the secondary deliverables.
19	NG	As identified by Ofgem, we would welcome the inclusion within the methodology of how the document will be updated and how future innovations in operation and maintenance will be taken into account. In addition, we would also welcome understanding if the Distribution Network Operators see methodology updates and innovations requiring a re-base of the targets. This is particularly important as capital investments can have long lead times and changing targets throughout the RIIO-ED1 period would almost certainly impact on delivery of the capital plan if uncertainty existed on the outputs to be delivered	Same as No13
20	NG	Based on our understanding of the methodology, we would welcome the Distribution Network Operators explaining how they are dealing with high impact, low probability events. This is particularly relevant as high impact, low probability events are not statistically well described by 'probability multiplied by consequence' calculations which have been used in the methodology.	HILP will be part of future work on the Common methodology

21	NG	Having studied the methodology, we would welcome further explanation of the incipient and degraded failure definitions. As the definition distinction between 'degraded' and 'incipient' is related to the asset management intervention undertaken following the failure, these two types of failures could overlap. In particular, we would welcome the distinction between these two types of failure in terms of calculating the probability of failure based on the statement "The national failure rate figures used were the sum of all DNO functional failures (5 year annualised average) in accordance with the Condition Based Functional Failure definition" from page 32.	Added requirement in direction
22	NG	We would welcome further explanation on occasions where factors or values are chosen to be used in the methodology without the reader being able to gain a clear understanding of why that factor or value was chosen. Some examples of this are: <ul style="list-style-type: none"> <li>• Choice of 5.5 for Initial Health Score on page 22</li> <li>• The C-Value being ten times higher for assets in the worst state of asset health on page 32</li> <li>• The Modified Maximum and Increment (MMI) Technique in Section 6.7.2</li> </ul>	Following the calibration and validation exercise, we expect the values to be verified or updated accordingly. Additionally the examples will provide further clarity on the methodology.
23	NG	Having studied the methodology we are not clear how probability of failure is derived for linear assets given sections of a linear asset may deteriorate at different rates. We would also welcome the tables of probabilities of failure including their associated descriptions (e.g. duration over which the probability is defined, length over which the probability is defined for linear assets).	Added requirement in direction
24	NG	Page 35 identifies "For assets under 10 years old, the current Ageing Rate shall be set to the initial Ageing Rate. This is to prevent an unrealistically high rate of deterioration being applied to relatively new assets where reliability issues have been identified early on in their life." Given this statement we would welcome further explanation of how this treatment in the methodology relates to 'burn-in' / infant mortality.	Will be part of future work on Common methodology

25	NG	<p>As identified by Ofgem, we would also like to see the following explained in the Distribution Network Operators common methodology</p> <ul style="list-style-type: none"> <li>• How total network risk will be calculated from the individual asset risks</li> <li>• How the risk 'trade-off' between asset categories will work</li> <li>• How the risk 'trade-off' will feed into the regulatory process</li> </ul>	<p>The revised methodology should have a clearer explanation as to how overall risk is calculated (point 7). Additional information on risk calculation is included in the RIGs.</p>
26	BG	<p>Targets for the relevant secondary deliverables, upon which the RIIO-ED1 settlement is based, should not be rebased during the current price control and DNOs should report on a dual basis through RIIO ED1.</p>	<p>The current asset methodologies are on a DNOs specific basis and are not as transparent as the new common methodology. If no rebasing is carried out and the measurement of delivered outputs is on the same basis as the existing methodology, it is highly likely that an intensive period of discussion will be required at the end of the price control period to determine whether companies have under or over-delivered. The DNOs will need to provide evidence as to the reasons behind their own belief that the outputs delivered have an equivalence of delivery. We consider that this process will be more transparent and robust using the common methodology, which will be better both for electricity customers, DNOs and other stakeholders.</p>
27	BG	<p>The RIIO-ED1 price control should be used to make improvements to the methodology.</p>	<p>We have defined the scope and update process for the methodology in the SLC 51. As stated in draft decision notice we are confident that the current methodology can meet these requirements. In the meantime we will continue to work together with DNOs improve the Common methodology (HILP, burn-in)</p>