

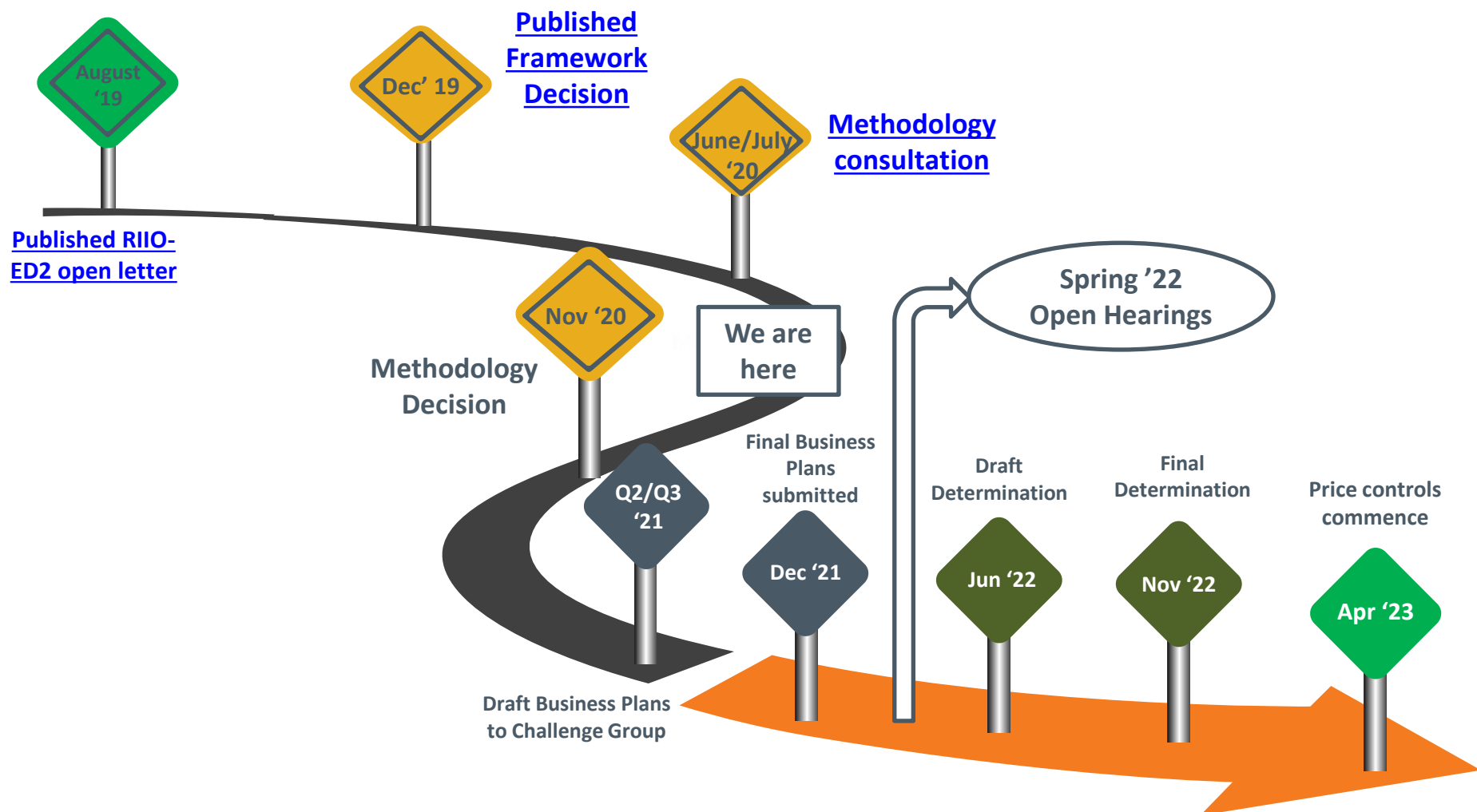
Safety, Resilience, and Reliability Working Group

Meeting 18 – NARM



RIIO Electricity Distribution
10/09/2020

- Welcome and introductions: 10:00-10:10
- SSMC clarifications and options discussion: 10:10-10:40
- Incentives associated with NARM for ED2: 10:40-11:10
- ENA update on CNAIM v2.0: 11:10-11:30
- Interaction with BPDTs: 11:30-12:15
- Forward work planning: 12:15-12:30
- Actions, Next Steps, AOB: 12:30-12:45



SSMC clarifications and options discussions

- For RIIO-ED2, we want the outputs that licensees are set to **better reflect the long-term benefit** of the work they are doing, and we want the Common Network Asset Indices Methodology (CNAIM) to have **greater coverage and alignment across the sector**.
- For RIIO-ED2, we propose to **build on the progress made in RIIO-ED1** in developing Network Asset Secondary Deliverables (NASDs).
- In line with the other sectors we will term this the Network Asset Risk Metric (**NARM**) and similar to NASDs, NARMs will use **monetised risk as the primary measure for defining the outputs**.
- We have identified several **priority areas for which to focus the development of NARMs** for RIIO-ED2. These include:
 - Adoption of long-term risk
 - Commonality of reporting
 - Production of guidance document
 - Revision of the CNAIM methodology
 - Expansion of the CNAIM methodology
- The following slides summarise our SSMC position and highlight next steps.

- Our proposed methodology for the estimation and reporting of long-term risk for RIIO-ED2 is to assign a typical 'cumulative discounted future Probability of Failure (PoF)' weighting to each Health Index Band. Core assumptions that underpin this approach include:
 - all assets (within a given asset category) within the same Health Index Band can be regarded as having the same typical value of Health Score (and PoF) in the current year.
 - all assets (within a given asset category) with the same Current Health Score, will follow a standard deterioration curve and therefore have the same value of Health Score (and PoF) in each future year.
 - Consequence of Failure (CoF) can be considered to be a constant
- We will continue to work on the development of some of the specific technical elements of this approach through the SRRWG on the run up to our Sector Methodology Decision, including but not limited to the **determination of appropriate values for the Matrix Weighting Factors and typical health score for health bands**, and a **review of any underlying assumptions and the continued testing of fitness for purpose** of the models.

- In RIIO-ED1, DNOs were only required to report Network Asset Indices for Health Index Asset Categories where they had agreed NASDs. While the CNAIM covered 25 different Health Index Asset Categories, DNOs were only required to implement the methodology for those Health Index Asset Categories where they were to report Network Asset Indices.
- For RIIO-ED2, under NARM, we want to ensure consistency of approach across the electricity distribution sector, in terms of the reporting of assets covered by the CNAIM. We want to give DNOs the opportunity to increase assets within the scope of their CNAIM-reported assets, and we want all DNOs to report on the same types of assets.
- We will continue to work with DNOs and other stakeholders in the run up to our Sector Methodology Decision, in order to understand any concerns with our proposal. This process will include why information is not routinely collected and consider the plans DNOs have in place for the collection of this information.
- In RIIO-ED1, Information Gathering Plans (IGPs), which set out how DNOs gather and record information required for implementation of the CNAIM, were submitted to Ofgem for approval. DNOs were also required, through SLC 51, to keep their IGPs under review, and where necessary to modify them to ensure they continue to align with the reporting requirements. Given the proposed changes to the NARM framework for RIIO-ED2, we intend to **review the role of IGPs** on the run up to our Sector Specific Methodology Decision.

- We propose that DNOs work together to develop an Engineering Guidance document on data input to the CNAIM. This should improve the consistency of reported asset data and ensure better alignment across the sector on areas such as external asset condition and leaks.
- In the first instance, we expect the Engineering Guidance document to cover all condition points for primary and ground mounted asset classes in the CNAIM. For the start of RIIO-ED2, we expect the guidance to cover all condition points for all asset classes covered by the CNAIM.
- It is our view that our proposals relating to commonality of reporting and the production of a guidance document sufficiently address these challenges, and as such, we are no longer proposing to consider the introduction of an Asset Data Quality Incentive for RIIO-ED2.

- For RIIO-ED2, in addition to updates that capture areas under review and developments based on innovations and experience from RIIO-ED1, we expect the CNAIM to be updated to take into account proposals on the development of the NARM output measures, and the expansion of the methodology to provide greater coverage and alignment across the sector.
- We also note that within the CNAIM there are a number of key fixed values, on which the methodology is dependent.
- To ensure consistency across the price control, where appropriate, these values should be set at the same level as the equivalent parameters in the RIIO-ED2 CBA templates, and innovation work streams.
- We will continue to work with DNOs and stakeholders across the various work streams and in the various working groups, on the **revision of key fixed input values** in the run up to our Sector Specific Methodology Decision.

- For RIIO-ED2, we want to increase the coverage of the methodology and, where appropriate, to link expenditure to outputs. Our proposal is for a common set of 61 Asset Register Categories models to be adopted by all DNOs.
- We have identified the following three high-level options as potential approaches to setting outputs for the Non-NARM assets not covered by the methodology:
 - Option 1: Multi-asset Volume Driver
 - Option 2: Notional Risk Weighting
 - Option 3: Fault Rate Measure
- While our ambition to improve coverage of the methodology remains, if we are not able to overcome some of the key challenges highlighted for the presented options, then in our Sector Methodology Decision we may decide to utilise other price control mechanisms to manage Non-NARM related expenditure, such as the use of uncertainty mechanisms.
- We will continue to develop our thinking in consultation with DNOs and other stakeholders through the SRRWG on the future role of the NARM framework for RIIO-ED3.

- For RIIO-ED2, we want to ensure that DNOs are incentivised to deliver efficiently their NARM outputs. We are proposing, as a principle, that where a DNO fails to deliver its output target, it will hand back the associated cost allowances. We also propose that if the DNO fails to justify its under-delivery, it will face a penalty.
- We are also proposing that DNOs should be exposed, under the totex incentive mechanism (TIM), to the cost of delivering more than their output targets. However, where there is material consumer benefit to justify delivering more than the targets, we will consider relevant criteria and options for maintaining cost neutrality.
- We are proposing that monetised risk improvements delivered through investments funded under other mechanisms should not be included in NARM for RIIO-ED2, and thus should not count towards a DNO's delivery of their output targets

Delivery Scenarios		Proposed Approach
Over-delivery	Justified	Licensee to be made cost neutral.
	Unjustified	No funding adjustment.
On-target delivery	N/A	No funding adjustment.
Under-delivery	Justified	Unspent funding clawed-back.
	Unjustified	Unspent funding clawed-back. Penalty applied.

- In our Draft Determinations for the Transmission and Gas Distribution sectors, we set out our proposed NARM Funding Adjustment and Penalty Mechanism which will calculate financial adjustments and penalties for all potential delivery scenarios.

- For RIIO-ED2, it is our view that NARM should provide a useful tool, as part of a wider toolkit, for assessing and justifying investment decisions. Movements in monetised risk due to asset interventions, shown through changes in the Risk Index, can be directly compared against intervention costs, allowing some costbenefit analysis and the quantification of risk benefits.
- It is also our view that the probabilities and consequences of failure calculated for individual assets could facilitate more detailed Cost Benefit Analysis (CBA), again as part of a wider toolkit approach to justification, specifically for high materiality investment decisions, or where required the Risk Index does not sufficiently demonstrate a positive cost-benefit outcome.
- While we recognise the important role that NARM can play in justifying DNOs' Asset Replacement and Refurbishment expenditure, we believe that there is a need for additional justification through CBAs and EJPs to provide the narrative for and to explain the DNO's investment decision-making process. We also recognise the important role that our cost assessment has in setting the efficient level of Asset Replacement and Refurbishment expenditure for DNOs to deliver their outputs.

Incentives associated with NARM

- At close out, DNOs must provide a report to Ofgem setting out the Network Asset Secondary Deliverables (NASDs) that they have delivered over RIIO-ED1. The report must detail the following:
 - DNOs NASDs as set out in the Network Assets Workbook (NAW);
 - NASDs equivalent or better than those set out in the NAW;
 - Any justified Over-Delivery; and
 - Any justified Under-Delivery.
- Ofgem will assess DNOs submission for the purpose of determining what adjustments should be made. Ofgem will consider the DNOs performance (subject to a materiality threshold / Deadband) in delivering the NASDs by assessing the change in monetised risk delivered in accordance with the Network Asset Indices, against the NASDs set out for the DNO in its NAW.
- Where Ofgem determines that some or all of the NASDs have been subject of an under-delivery that is not justified:
 - The incremental cost of delivering the NASDs will not be funded; and
 - A negative adjustment of 2.5% of the avoided costs associated with the under-delivery will be applied to the DNOs allowance.
- Where Ofgem determines that the licensee has demonstrated a justified over-delivery:
 - The cost of that over-delivery will be funded; and
 - A positive adjustment of 2.5% of the incremental costs associated with the over-delivery, will be added to the DNOs allowance.

Core requirements of the mechanism

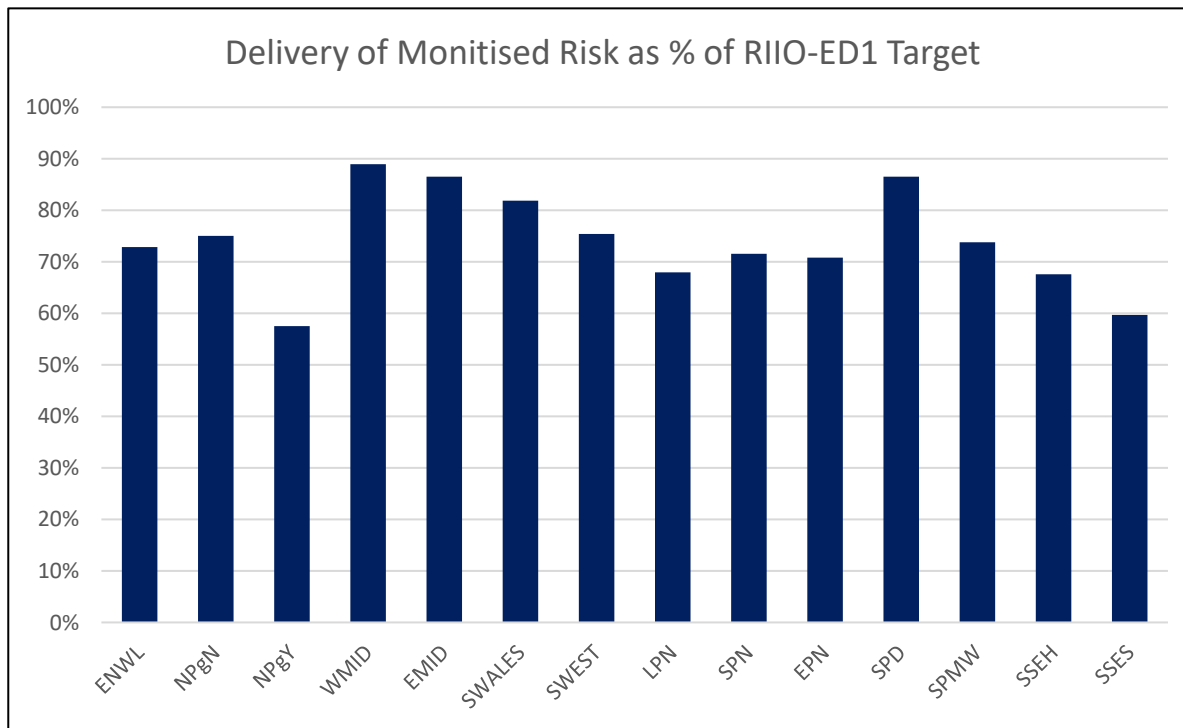
1. The funding adjustment and penalty mechanism must set out clearly how funding will be adjusted for all realistic delivery scenarios.
2. Network Risk Outputs are the measure of delivery for allowances tied to the NARM funding adjustment mechanism.
3. If not to become a volume based mechanism, the funding mechanism will need to apply one or more unit costs of risk benefit (UCR) to the network companies' outturn delivery.
4. Companies can deliver the same output for very variable (UCR), both across asset categories, and within asset categories.
5. The funding adjustment mechanism should maximise, as much as possible, network companies' ability to choose appropriate assets and interventions to deliver their outputs (risk trade).
6. The funding adjustment and penalty mechanism must mitigate potential for windfall gains.

Over and Under-Delivery

The core principles from RIIO-2 SSMD have not changed in regards to over-delivery and under-delivery and are also similar to the approach in RIIO-1

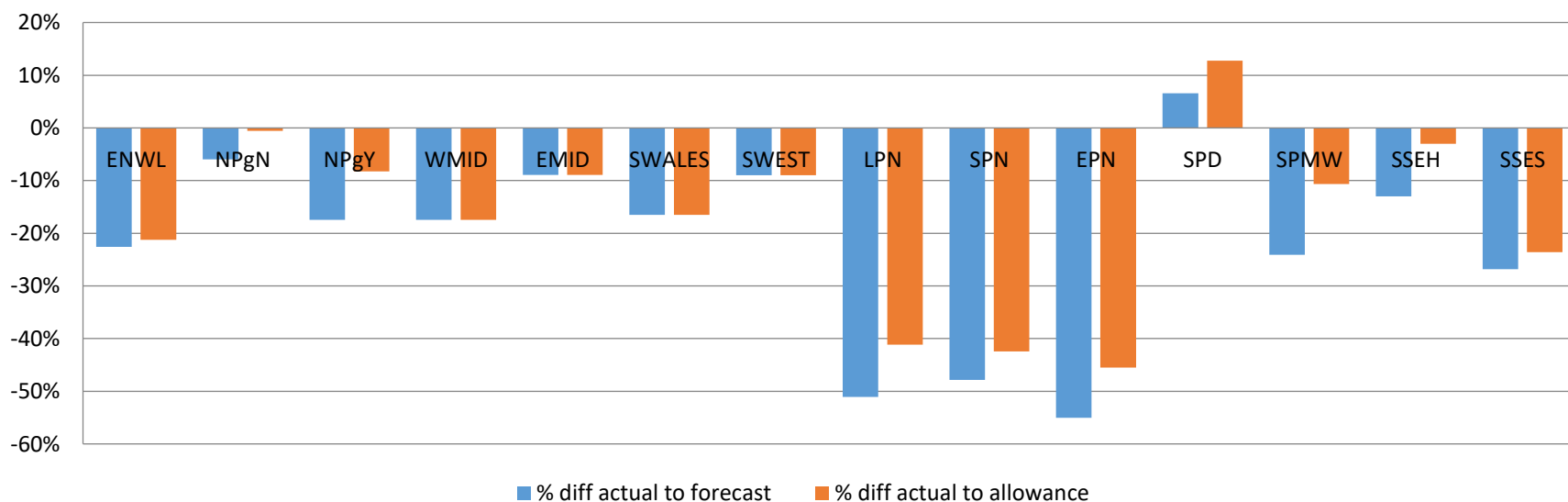
- No allowed cost adjustment will be applied for **over-delivery**, except in exceptional circumstances.
- Any cost allowances associated with **under-delivery** will be clawed back.
- A **penalty for unjustified under-delivery**, equal to a proportion of the relevant cost allowances clawed back.
- Network companies are expected to **provide justification for both under- and over-deliveries** setting out assessment of the proportion of any over- or under-delivery that is justified together with associated evidence. This includes demonstrating:
 - significant net benefit to consumers compared to on-target delivery
 - the work could not reasonably have been deferred/accelerated to RIIO-3
 - that it's due to factors that could not have reasonably have been foreseen
 - it was not reasonably possible to have traded risk to deliver on target.

We can consider potential application of deadband around delivery and requirements to provide a justification case.

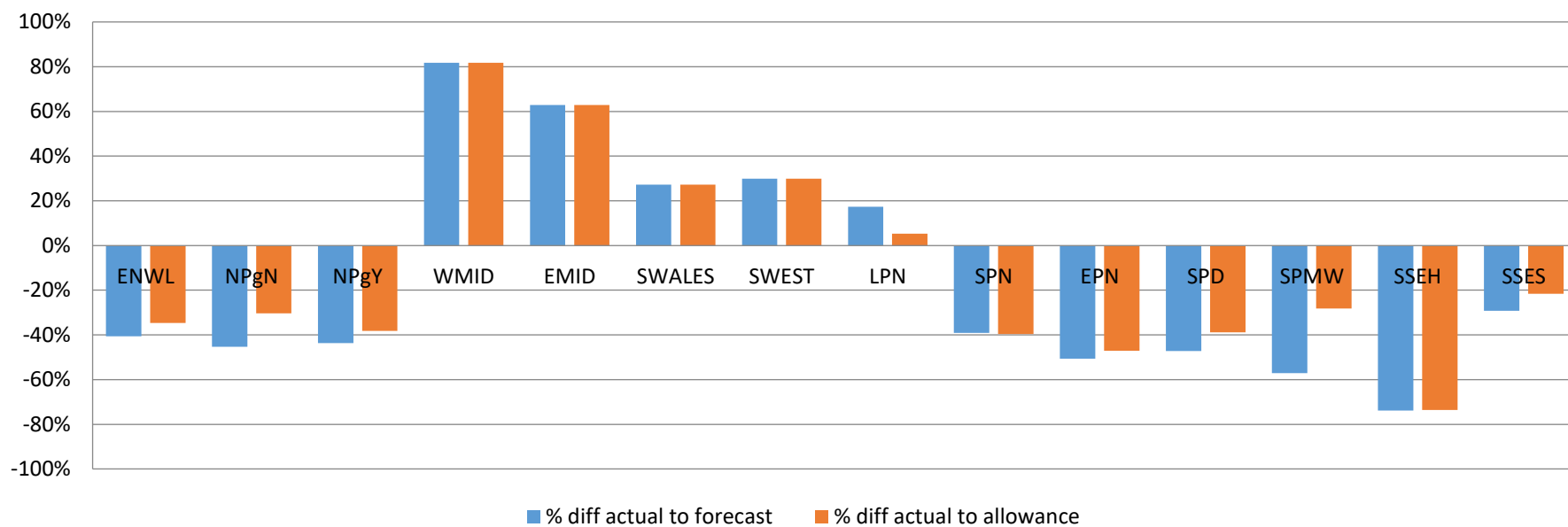


DNO	% Delivered
ENWL	73%
NPgN	75%
NPgY	58%
WMID	89%
EMID	87%
SWALES	82%
SWEST	75%
LPN	68%
SPN	72%
EPN	71%
SPD	87%
SPMW	74%
SSEH	68%
SSES	60%

Asset Replacement (5 year)



Asset Refurbishment (5 year)



Our SSMC position:

- Slide 11 summarises our SSMC position.
- Full detail found [here](#) in paragraphs 8.72 – 8.77.

Next steps:

- Review responses to SSMC and Draft Determinations.
- Review feedback from Cross-Sector Working Groups NARM Funding Adjustment and Penalty Mechanism.

ENA update on CNAIM v2.0

The Voice of the Networks

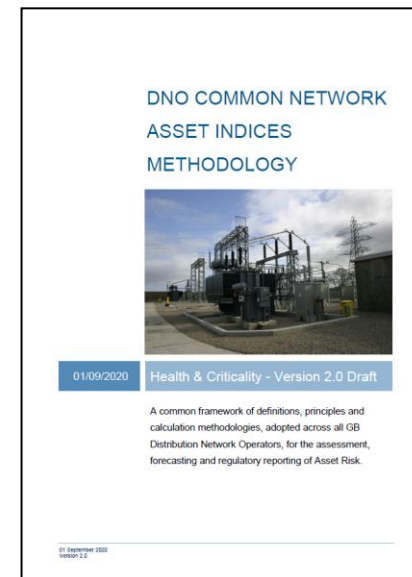
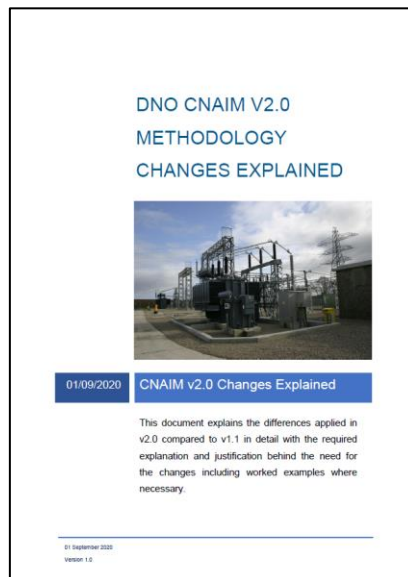
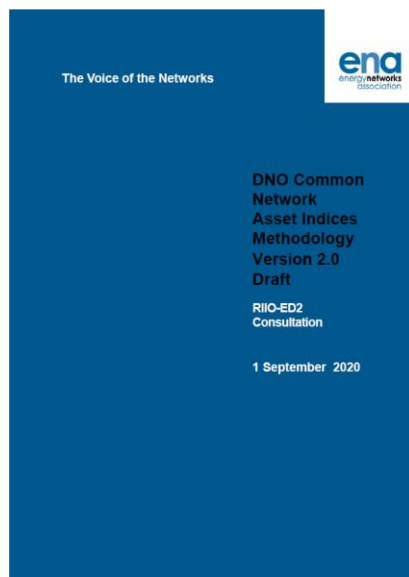
Energy Networks Association



**DNO Common Network Asset
Indices Methodology v2.0 Draft -
Update**

**09 September 2020
Landel Johnston**

Update on CNAIM v2.0 Draft



Following Ofgem's publication of the [Sector Specific Methodology Consultation \(SSMC\) for Electricity Distribution](#) on 30 July 2020, the Distribution Network Operators (DNOs) are proposing to modify their Common Network Asset Indices Methodology (CNAIM).

The consultation is being hosted by the [Energy Networks Association \(ENA\)](#).

Summary of changes in CNAIM v2.0

The review of CNAIM has resulted in several significant changes as well as more minor changes. Some have been driven by Ofgem proposals as outlined in the SSMC and others by the DNOs from experience of and reporting for RIIO-ED1 using CNAIM v1.1

Key to the significant changes in CNAIM v2.0 are:

- The risk values assigned to an asset is now capable of being expressed as a “long term risk” value permitting better understanding of the risk mitigation an intervention from a DNO has on the overall risk presented to the operator’s network.
 - Chapter 5 of CNAIM v2.0
 - Section 5 of the Explanation Document
- Revision of the calibration of the values associated with the Health Index depiction in the 5x4 matrices.
 - Section 5.3 of CNAIM v2.0
 - Sections 6 and 8 of the Explanation Document
- Standardisation of the way in which Consequence of Failure (CoF) values are used by the DNOs.
 - Section 7.2 of CNAIM v2.0
 - Section 8 of the Explanation Document
- Revision of the calibration of customer numbers and Maximum Demands.
 - Section D 4.1 of CNAIM v2.0
 - Section 9 of the Explanation Document

- Included in the consultation are a number of key questions to assist with responses as shown below as well as a further 22 questions on each of the specific areas detailed in the explanation documentation.
- **Question 1:** Do you agree that the overall changes now proposed constitute an appropriate modification to the CNAIM v1.1 Methodology for the RIIO-ED2 period?
- **Question 2:** Is the approach to the creation of Long Term Risk values logical and understandable, and do you agree with the proposal ?
- **Question 3:** Do the changes to the methodology made to support the Ofgem requirements and detailed in sections 5 to 11 of the Explanatory document (including the proposed consequential changes) provide better clarity to our stakeholders?
- **Question 4:** Do you agree that the changes proposed by the DNOs improve the ability to accurately present the Long Term Risk to Stakeholders?
- **Question 5:** With the exception of calibration values to permit the financial values to be updated, do you agree that the additions and revisions to the manner in which the Methodology derives values of Probability of Failure, Consequence of Failure and therefore risk are appropriate? e.g. the adoption of more collars as proposed in Appendix B.5 Observed Condition Factors and B.6 Measured Condition Factors

- Responses should be submitted by email to the ENA secretariat by 1 October 2020 no later than 17.00hrs to regulation@energynetworks.org. Alternatively, responses by post can be sent to
 - Electricity Northwest Ltd
 - Hartington Road
 - Preston
 - Lancashire
 - PR1 8AF
- All postal correspondence must be marked for the attention of R A Wells Regulation and Communications Directorate, Asset Management ED2 Engineering Support Manager.
- And must also be received by 1 October 2020 no later than 17.00hrs.
- Report from Consultation will be compiled and provided to Ofgem in early November 2020.

Timeline progress

TASK	KEY ACTIVITIES	2019			2020				2021				2022				2023			
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Regulatory Submissions	Annual Submissions																			
	(Re)approval of CNAIM																			
	RIIO-2 BPDT (final)																			
Development of CNAIM	Scope (asset categories (CNAIM light vs CNAIM pro), investment activities)																			
	Condition Modifiers (e.g. type of inspection data)																			
	CoF Factors (e.g. CoF driven interventions)																			
	Health Assessment Methodology (age and/or condition based)																			
	Forecasting method (duration, exponential versus Weibul)																			
	Calibration (e.g. PoF, Health Score Modifiers, CoF reference values (inc. VOLL))																			
	Implementation guide (new part 2 of CNAIM)																			
	IT Systems																			
RIGs	Annex A - Glossary																			
	Annex D - Secondary Deliverables																			
Templates	BPDT / NAW (target setting)																			
	CBAs (target setting)																			
	Annex D (reporting actuals)																			

CNAIM v2.0 Draft approval must be 'Approved' by end Q4 2020

Interaction with BPDs and cost assessment

RIIO-ED2 BPDT: NARM Related Information

P Mann – SRRWG 10/09/2020

NARM Related Information

- DNO's RIIO-ED2 BPDTs shall need to provide sufficient NARM related information to:-
 - assist assessment of Asset Replacement (and some Refurbishment) activities on asset types included within the NARM framework;
 - support justification for condition based activities; and
 - facilitate setting of NARM output targets for RIIO-ED2.
- This shall require the BPDT to contain:-
 - Network Asset Indices information for the populations of assets included in the NARM framework, including forecast information;
 - forecasts of the effects of planned interventions upon the Network Asset Indices; and
 - identifiable cost and volumes for activities that contribute to delivery of the NARM outputs.

Network Asset Indices Information

- Draft BPDT templates were circulated on 30/07/2020 and provide an initial view of submission requirements in relation to NARMs.
- This included two workbooks relating to Network Asset Indices:-
 - 'ED2 Network Assets Workbook.xlsx'; and
 - 'ED2 Secondary Deliverables Reporting Pack.xlsx'

Both workbooks have previously been tabled at SRRWG to illustrate how RIIO-ED2 NARMs can be incorporated as a development of the RIIO-ED1 reporting packs.

- Neither workbook was developed to fulfil the requirements for provision of Network Asset Indices information in a BPDT.

Network Asset Indices Information (2)

- The 'ED2 Secondary Deliverables Reporting Pack.xlsx' workbook is a draft RIIO-ED2 reporting workbook;
 - it is intended to be used for the reporting of year on year changes in Network Asset Indices and track progress in delivery against the agreed NARM output; and
 - it is required for use in the RIIO-ED2 period itself (and not Business Plan submission)
- The 'ED2 Network Assets Workbook.xlsx' is a draft workbook that contains the information that is necessary to define the agreed NARM output for each DNO. This shall be required for/ after final determinations, but shall need to be relatable to BPDT submissions.
- The Network Assets Workbook, therefore, would represent the minimum amount of Network Asset Indices information that might be required within the BPDT.

Network Asset Indices Information (3)

- For example, in addition to the information in 'ED2 Network Assets Workbook.xlsx', RIIO-ED2 BPDTs might also be required to provide additional Network Asset Indices information showing:-
 - the Health/ Criticality of assets in the year of submission;
 - forecast changes in Health/ Criticality in the remainder of the RIIO-ED1 period;
 - the forecast impact of interventions in the remainder of the RIIO-ED1 period;
 - the forecast impact of interventions, other than Asset Replacement/ Refurbishment, in the RIIO-ED2 period.
- **How are the requirements for Network Asset Indices information in the RIIO-ED2 BPDT being progressed?**
- **What role should the SRRWG have in defining the Network Asset Indices BPDT tables and what is the interaction with the BPDT working group?**

Cost & Volumes: NARMs related Asset Replacement

- The draft BPDT template circulated on 30/07/2020 subdivide Asset Replacement activity into two tables:-
 - CV7a: Asset Replacement NARM
 - CV7b: Asset Replacement no NARM
- Asset Replacement activities (costs, additions volumes and removals volumes) are proposed to be allocated across these tables based on whether, or not, they are “for condition based replacement of assets that would be included in the measure of delivery of the NARM”. This is an ambiguous phrase and could refer to subdivision based on:-
 - whether the asset replacement works result in the installation of asset types that are included in the NARMs framework (with all costs, additions and removals associated with the works reported on the same table accordingly); or
 - whether the asset replacement works remove asset types that are included in the NARMs framework (with all costs, additions and removals associated with the works reported on the same table accordingly); or
 - independent reporting of costs, additions and removals based on whether the associated cost or volume relates to a NARMs or non-NARMs asset type (from the greyed out cells in the draft tables, this appears to be the intended subdivision, but BPDT guidance needs ‘tidying up’ to make this clear).

Cost & Volumes: NARMs related Refurbishment

- The draft RIIO-ED2 BPDT template circulated on 30/07/2020 subdivides Refurbishment activity into two tables:-
 - CV8: Refurbishment no NARM
 - CV9: Refurbishment NARM
- The accompanying draft BPDT guidance describes the allocation between CV8 and CV9 based on the type of activity undertaken on the asset, irrespective of whether the DNO has agreed inclusion of the asset type within NARMs.
- This is consistent with the split of costs and volumes between CV8 (Refurbishment No SDI) and CV9 (Refurbishment SDI) currently used in RIIO-ED1 reporting.
- It should be noted that the terms 'NARM' and 'No NARM' in the table names refer to a different criteria to that used in the proposed subdivision of CV7 into 'NARM' and 'no NARM' tables (which is based on asset type).

Cost & Volumes: NARMs related Refurbishment (2)

- RIIO-ED1 Refurbishment reporting:-

Assets included in agreed NOMs identifiable on CV9 table in RIIO-ED1 reporting pack

	CV8 No-SDI activity (activity delivers no Secondary Deliverable impact)	CV9 SDI activity (activity delivers a Secondary Deliverable impact provided the asset type is included within the agreed NOMs deliverable)
Asset type included in agreed NOMs	Intervention NOT included in NOMs delivery	Intervention INCLUDED in NOMs delivery
Asset type not included in agreed NOMs	Intervention NOT included in NOMs delivery	Intervention NOT included in NOMs delivery

In RIIO-ED1, DNOs could elect which assets were included in NOMs, leading to different DNOs having different groups of assets in NOMs. However, for cost and volumes to be comparable, this necessitated consistency in treatment of cost & volume reporting, leading to assets not included in the agreed NOMs still being split across CV8 and CV9

- Unlike the RIIO-ED1 Refurbishment tables, the current draft BPDT CV9 does not include the information needed to split the asset types between those included in the delivery of NARMs and those not included. This needs to be addressed.

Cost & Volumes: NARMs related Refurbishment (3)

- The draft RIIO-ED2 BPDT CV8 and CV9, and guidance, need (as a minimum) some 'tidying up'.
- These tables should be reviewed, taking into consideration some of the changes proposed to be introduced in the RIIO-ED2 NARM framework. For example, if all DNOs include the same asset categories within their NARM deliverable, is there any requirement to split out Refurbishment of non-NARMs asset types into two categories? If not, could CV9 be used only for asset types included in the NARM deliverable?

	CV8 Activities not counted in NARMs delivery	CV9 Activities counted in NARMs delivery
Asset type included in agreed NARMs	Intervention NOT included in NOMs delivery	Intervention INCLUDED in NOMs delivery
Asset type not included in agreed NARMs	Intervention NOT included in NARMs delivery	

Cost & Volumes: NARMs related information

- The BPDT tables and guidance around Asset Replacement and Refurbishment need, as a minimum, some 'tidying up' and possibly development.
- The DNO consultation on changes to CNAIM for RIIO-ED2 propose some minor changes to Refurbishment activities that will be considered as contributing to the NARM deliverable.
- **Does the SRRWG have a role in developing the cost and volumes tables, and guidance, for Asset Replacement and Refurbishment activities?**
- **How will this be progressed?**

Forward work planning

Proposed WGs:

SRRWG (NARM)
10th September

SRRWG (NARM)
14th October

SRRWG (NARM)
12th November

**Key areas
requiring further
WG discussion:**

#	Output/issue area	Issue/question to answer	View on who should lead group e.g. Ofgem, DNO, either?	Which Working Group? (e.g. CAWG, BPDt)	Priority (H/M/L)
1	NARM incentives	Detail on the what the incentive framework will look like for NARM in ED2.	Ofgem	SRRWG	H
2	Interaction with cost assessment, BPDts, CBAs, EJPs	What is the interaction with NARM and our cost assessment approach, BPDts, CBAs and EJPs.	Ofgem, DNOs	SRRWG, CAWG, BPDtWG	H
3	Role of Information Gathering Plans (IGPs)	What is the role around IGPs in ED2, and what is the interaction with NARM and what, if any, formal requirements are required?	Ofgem, DNOs	SRRWG	M
4	Long-term risk methodology	Determination of appropriate values for the Matrix Weighting Factors and typical health score for health bands, and review of any underlying assumptions and continued testing of fitness for purpose	DNOs	SRRWG	M
5	Production of Engineering Guidance document	Continued development of Engineering Guidance / Good Practice Guide.	DNOs	ENA-NEDWG	M
6	Revision of methodology (CNAIM v2.0)	Continued development and review of CNAIM v2.0	Ofgem	ENA-NEDWG	M
7	Expansion of methodology	Review and development of the high level options presented in the SSMC on expanding the methodology for ED2.	DNOs	SRRWG	H

- The next session on NARM is Wednesday 14th October.
- We will circulate notes and an actions log from this meeting.

Our core purpose is to ensure that all consumers can get good value and service from the energy market. In support of this we favour market solutions where practical, incentive regulation for monopolies and an approach that seeks to enable innovation and beneficial change whilst protecting consumers.

We will ensure that Ofgem will operate as an efficient organisation, driven by skilled and empowered staff, that will act quickly, predictably and effectively in the consumer interest, based on independent and transparent insight into consumers' experiences and the operation of energy systems and markets.