

Safety, Resilience, and Reliability Working Group

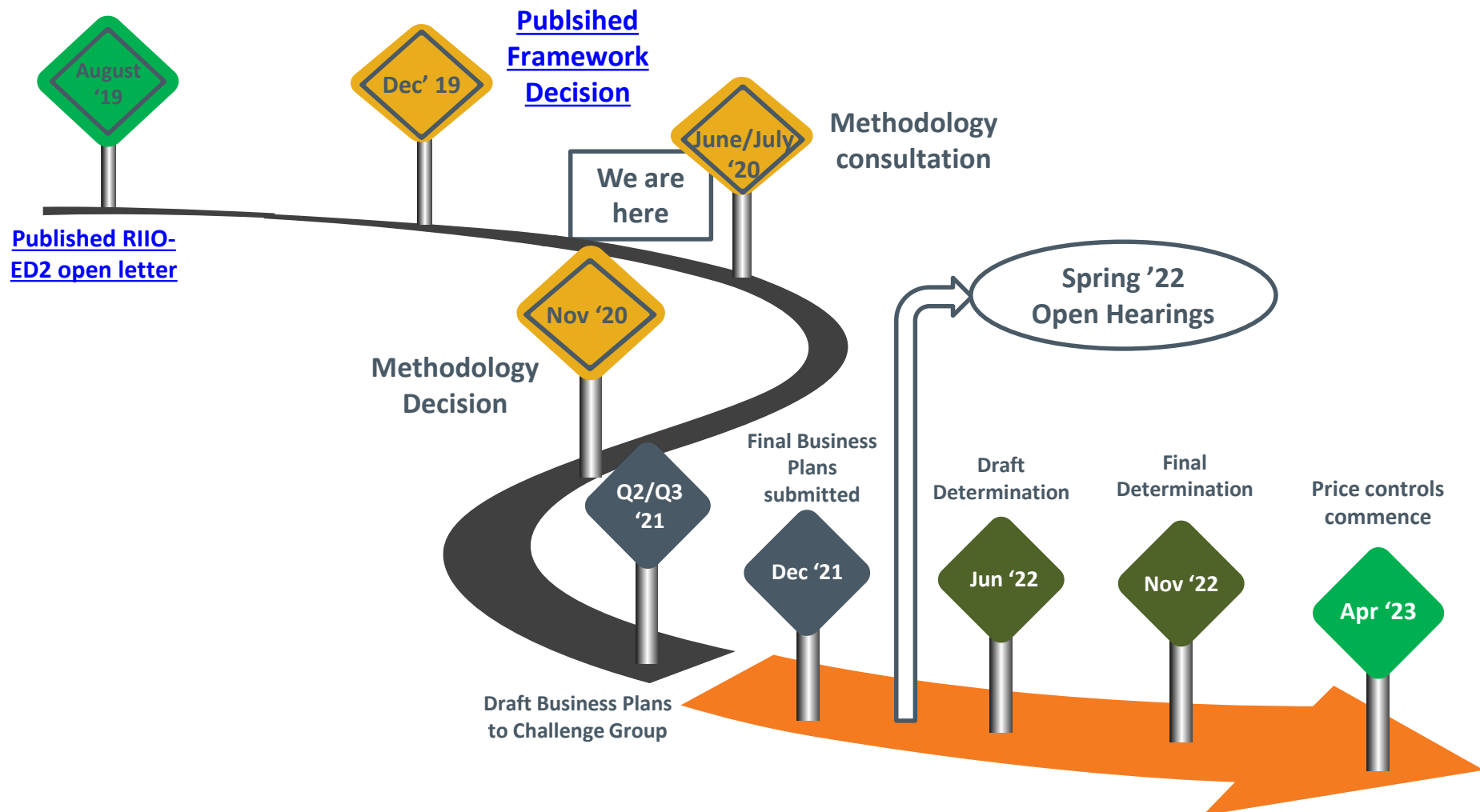
Meeting 14 – NARM / CNAIM



RIIO Electricity Distribution
11/06/2020

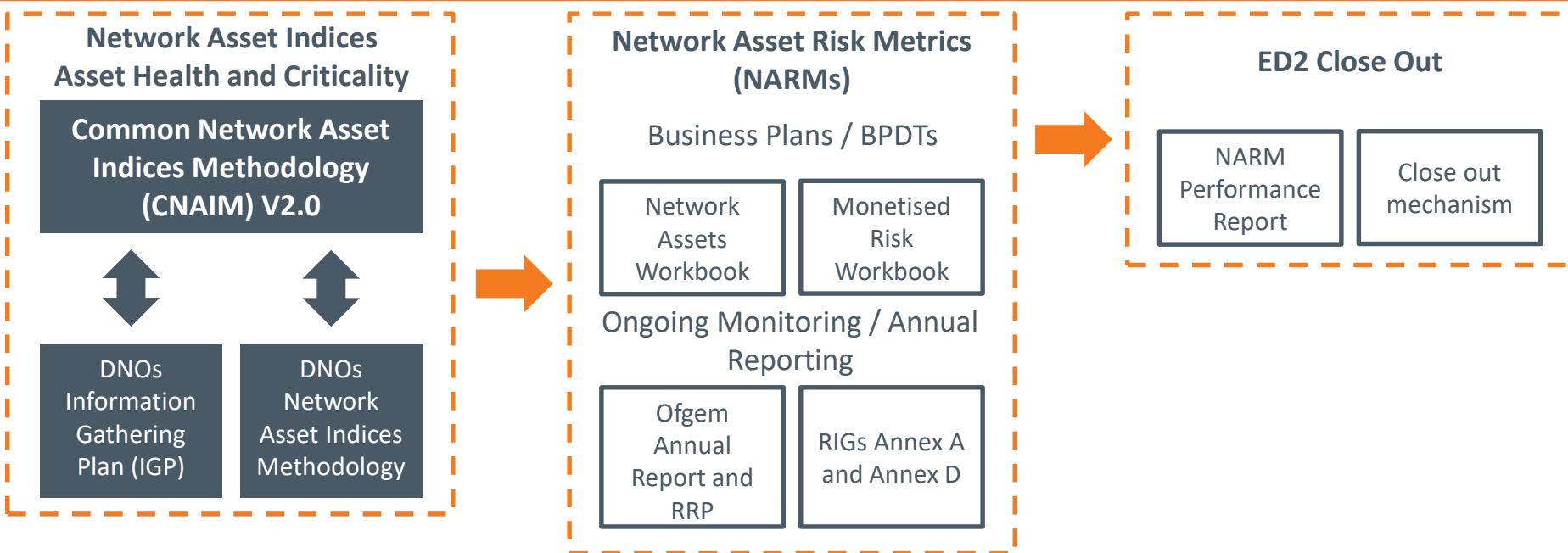
Safety, Resilience, and Reliability Working Group

- Welcome and introductions from Ofgem
- Review of working group discussions / position
- ENA presentation on development of ED2 templates and interaction with BPDTs
- Discussion item: Interaction with EJPs
- Review of actions, next steps



Ofgem review of working group discussions / positions

- 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 output delivery targets**.
- 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 **greater coverage and alignment across the sector**. Significant progress has been made in this area in RIIO-ED1, and we want to ensure that we continue to build on this work for RIIO-ED2 and beyond.
- We have identified several **priority areas for which to focus the development of NARMs** for RIIO-ED2. These include:
 - Adoption of whole life risk
 - Commonality of reporting
 - Production of guidance document
 - Revision of the CNAIM methodology
 - Expansion of the CNAIM methodology



Summary of working group discussions / position:

- This is a complex area of the price control with technical components and complicated terminology. We want to keep it as simple as possible for RIIO-ED2.
- We are proposing to rename NASDs as the NARMs to better align with the other sectors. As per the NASDs definition, we are proposing for RIIO-ED2, that by NARMs we mean the asset health, criticality and monetised risk outputs set for licensees. Their key output being the difference in monetised risk between the with and without asset intervention forecasts.
- As previously indicated, NARMs will be considered as a Price Control Deliverable (PCD)/ Output Delivery Incentive (ODI) hybrid mechanism.

Summary of working group discussions / position (cont'd):

- We are proposing that where a DNO fails to deliver its output target, it will lose the associated cost allowances. We also propose that if the company fails to justify its under-delivery, it will face a penalty
- We are also proposing that licensees should be exposed, under the totex incentive mechanism (TIM), to the cost of delivering more than their output targets. However, we will consider relevant criteria and options for maintaining cost neutrality, where there is material consumer benefit to justify delivering more than the 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.

- We are proposing that monetised risk improvements delivered through investments funded under other mechanisms should not be included in NARM output targets and delivery for RIIO-ED2.
- Note that our views re penalty and clawback mechanisms have been evolving through the review of the ET, GT, GD business plans. Draft Determinations will set out in more detail how we anticipate any penalty or clawback mechanisms working for those sectors.

Next steps:

- We will continue to work with licensees on the NARMS framework on the run up to Draft and Final Determinations. Areas to be further considered:
 - Incentive properties and output features such as penalty, reward and clawback.
 - Structure and function of the Network Assets Workbook.
 - Annual reporting requirements.
 - Adjustments to the output following Final Determinations.
 - Close out mechanism.
 - Role of NARMS with Cost Assessment and interaction with Engineering Justification Papers (EJPs).
- We will continue to seek alignment, where appropriate, with the other sectors. Licensees are encouraged to respond to the Draft Determinations consultation for the other three sectors.

Summary of working group discussions / position:

- For RIIO-ED2 we want the NARMS output measure to take into account the long-term benefit of the work that companies are funded to do during RIIO-ED2, through the estimated present value of future benefits. We think this will benefit consumers as it will take account of the longer-term impact on asset degradation of the various intervention options and is therefore more likely to lead to planning and implementation decisions that better reflect consumer value.
- This would be a development to the RIIO-ED1 measure which is based on a 'snapshot' view of the benefits delivered during the price control period.
- Our view is that the proposal, as discussed at several SRRWGs, to estimate the long-term benefits of asset interventions in RIIO-ED2 by applying new weightings to each Health Index Band that reflect the cumulative discounted future PoF for a typical asset within each Health Index Band, represents a logical and robust approach.

Next steps:

- We will continue to work with licensees on this approach for the reporting of whole life risk, on the run up to Draft and Final Determinations, including but not limited to:
 - The determination of appropriate values for the Matrix Weighting Factors and typical health score for health index bands.
 - Review and justification of any underlying assumptions and the continued testing of fitness for purpose.
 - Interaction with CBAs.

Summary of working group discussions / position:

- In RIIO-ED1, licensees were only required to report Network Asset Indices for Health Index Asset Categories where they had agreed NASDs. This resulted in a varied approach across the sector:

	ENWL	NPG	WPD	UKPN	SPEN	SSEN
No. of Health Index Asset Categories reported	21	22	22	22	14*	17*

* Scottish networks less due to no 132kV network

- For RIIO-ED2, under NARMs, we want to ensure consistency of approach across the sector, in terms of the reporting of assets covered by the CNAIM.
- We propose that:
 - The concept of a Health Index Asset Category is retired, and instead licensees report against the Asset Register Category models only.
 - All asset register categories within CNAIM must be declared against a company's NARM monetised risk target, with a NIL return provided for assets a licensee does not own.

Next steps:

- We will continue to work with licensees on this approach to considering whole life risk, on the run up to Draft and Final Determinations, including but not limited to:
 - Identification of Asset Register Category models which licensees do not feel that they are in the position to report against that are captured within the CNAIM methodology.

Summary of working group discussions / position:

- As a result of concerns over asset data, and the critical importance of robust and quality asset data to the NARMs framework, we have proposed the production of an Engineering Guidance document on data input to the CNAIM.
- Our view is that guidance is required to improve the consistency of reported asset data and ensure better alignment across the sector on areas such as external asset condition and leaks.
- For RIIO-ED2, we expect the Engineering Guidance document to cover all condition points for primary and ground mounted asset classes in the CNAIM. Throughout RIIO-ED2, we expect development of the guidance to cover all condition points for all asset classes covered by the CNAIM.

Next steps:

- We will continue to work with licensees on the production of an Engineering Guidance document to support the CNAIM, and on improvements to the reporting and consistency of asset data. On the run up to Draft and Final Determinations we will further consider:
 - The role of DNO IGPs.
 - The role of asset data audits in RIIO-ED2.

Summary of working group discussions / position:

- The CNAIM has been developed such that it can seamlessly incorporate future innovation in operation and maintenance. Licensees are obliged to keep the methodology under continual review, and we expect them to work co-operatively to identify areas for development and improvement.
- For RIIO-ED2, in addition to updates to the CNAIM that capture areas under review and developments based on innovations and RIIO-ED1 experience, we expect the CNAIM to be updated to take into account proposals on the development of the NARMs output measures, and the expansion of the methodology to provide greater coverage and alignment across the sector.

Next steps:

- We will continue to work with licensees on the revision of the CNAIM methodology. On the run up to Draft and Final Determinations we will:
 - Review proposed changes to the updated version of the CNAIM.
 - Further consider the interaction and ensure alignment to, the CBAs.

Summary of working group discussions / position:

- The Health Index Asset Categories included in the NASDs agreed by DNOs in RIIO-ED1 cover approx. 70% of the Asset Replacement expenditure (excl. assoc. civil works) in the first half of the period.
- For RIIO-ED2, we want to increase the coverage of the methodology and, where appropriate, link expenditure to outputs. Our proposal, as set out in Slide 10 under 'Commonality of Reporting' will increase coverage of the methodology to cover approx. 75% of the Asset Replacement expenditure (excl. assoc. civil works) in the first half of RIIO-ED1.
- As well as discussing longer term proposals (ED3 and beyond) we have identified the following three options as potential methods of measuring those assets not covered by the methodology in RIIO-ED2:
 - Option 1: Multi-asset Volume Driver;
 - Option 2: Notional Risk Weighting; and
 - Option 3: Fault Rate Measure.

Option 1: Volume Driver	Option 2: Notional Risk Weightings	Option 3: Fault Rate Measure
Can be developed from existing volumes reporting (and unit costs from cost assessment)	Requires significant development works to evaluated suitable monetised risk weightings	Can be developed from existing fault volume reporting
Input led (direct relationship to Asset Replacement expenditure)	Input led (direct relationship to Asset Replacement expenditure)	Lagging output measure (not a direct link to Asset Replacement/ Refurbishment expenditure)
Effectively treats NARMs and 'Non-NARMs' Asset Replacement as separate expenditure areas	If calibrated correctly could be incorporated in an overall metric enabling NARMs and 'Non-NARMs' to be considered as a whole.	'Back stop' measure to ensure appropriate balance between NARMs and 'Non-NARMs' condition based expenditure

Next steps:

- We will continue to work with licensees on the expansion of the methodology. On the run up to Draft and Final Determinations we will:
 - Review the options presented for the treatment of Non-NARMs assets in RIIO-ED2.
 - Consider proposals developed and direction of travel for RIIO-ED3 and beyond.

ENA presentation on development of ED2 templates and interaction with BPDTs

The Voice of the Networks

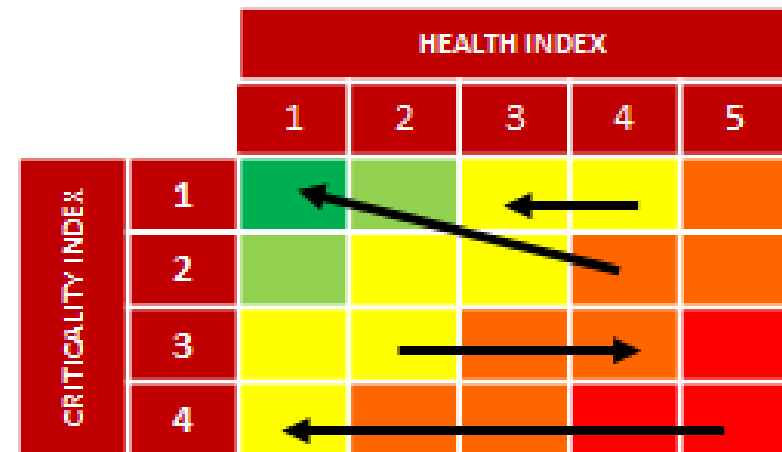
Energy Networks Association



**NEDWG development
initiative: ED2 templates**

Key reporting principles for ED1

- For RIIO-ED1 DNOs are to report information relating to both Asset Health and Criticality (the **Asset Risk Indices**) in accordance with the requirements of SLC51.
- The Asset Risk Indices allow the level of risk to be quantified consistently across asset categories and DNOs in accordance with the requirements of the **Common Networks Asset Indices Methodology (CNAIM)**, by determining the Health Index and Criticality Index for individual assets.
- Risk can change through proactive intervention or as a result of other changes, for example new condition data.
- Risk changes due to replacement and some refurbishment activities contribute towards delivery of a DNOs **Network Asset Secondary Deliverables (NASD)**



The risk associated with each asset can be approximated by reference to its position within the Risk Matrix

$$\text{Risk} = \text{PoF} \times \text{CoF}$$

Probability of failure *Consequence of Failure*
“The likelihood of *“The impact if it fails”*
failure” *x*

	HI1	HI2	HI3	HI4	HI5
	PoF1	PoF2	PoF3	PoF4	PoF5
C1	409	609	1,078	1,745	4,094
C2	546	813	1,437	2,327	5,458
C3	819	1,219	2,155	3,490	8,187
C4	1,365	2,032	3,592	5,817	13,645

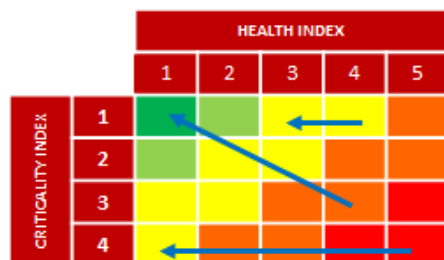
Every asset gets put somewhere in here, as dictated by the Common Methodology

Average risk points per matrix band

As part of the ED1 price control review, DNOs provided forecast risk profiles with and without intervention (asset replacement and refurbishment)

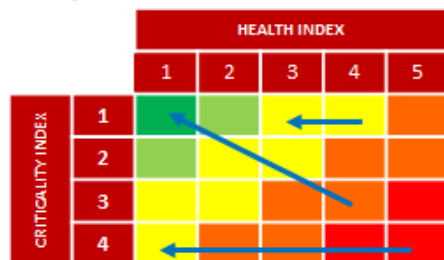
- The difference in the monetised risk (aggregated to network level for each Licensee) between the end of ED1 with/without intervention forecasts, as detailed in the Networks Assets Workbook (NAW) that formed part of the ED1 business plan submission.
- Note that this represents an end of period target (i.e. no annual targets throughout the period).

e.g. LV OHL Support

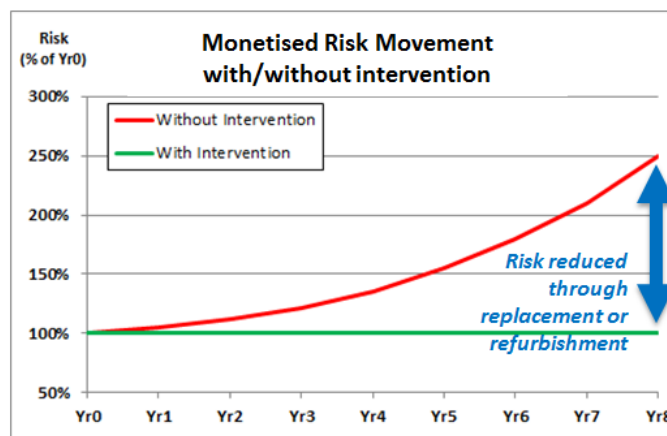


Risk reduced through replacement or refurbishment

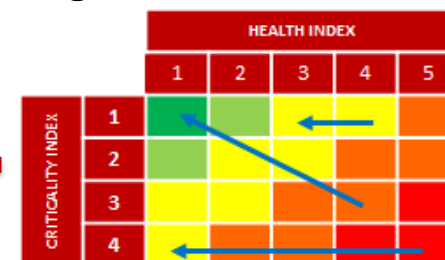
e.g. EHV UG Cable (Oil)



Risk reduced through replacement or refurbishment

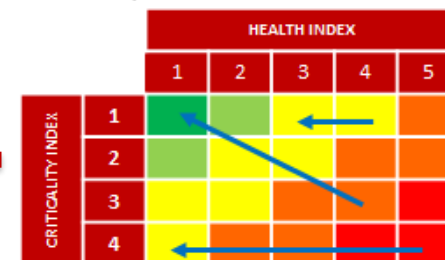


e.g. EHV Transformer



Risk reduced through replacement or refurbishment

e.g. 132kV CBs



Risk reduced through replacement or refurbishment

enda
energy **networks**
association



Use of the Asset Risk Indices as an Incentive

- As part of the ED1 price control review, DNOs provided forecast risk profiles with and without intervention (asset replacement and refurbishment) that Ofgem used to establish the NASD.
- **DNOs report annually their progress against these period targets.**
- As part of ED1 close-out in accordance with CRC 5D, Ofgem will assess all licensee's performance in delivering the NASD for the purpose of determining what, if any, adjustments should be made to the licensee's allowed revenue in the Next Price Control Period.

	JUSTIFIED	UNJUSTIFIED
Over delivery	Clause 5D.11: Cost of over-delivery shall be added to next price control revenue allowances. 2.5% reward will be applied	Clause 5D.15 : No adjustment made
Under-delivery	Clause 5D.15: No adjustment made	Clause 5D.9: Cost of under-delivery shall be excluded from next price control revenue allowances. 2.5% penalty will be applied

This reporting obligation in ED1 is discharged through three key workbooks

- **Network Assets Workbook (NAW):** Formed part of the ED1 BPDT and was used by DNOs to submit forecast data with/without their proposed interventions
- **Monetised Risk workbook:** Ofgem produced this by taking the NAWs and then adding some calculations to it, to create the Network Asset Secondary Deliverables (NASD). It remained a separate file and formed part of the final proposals.
- **Secondary Deliverables Reporting Pack (SDRP):** DNOs report actuals against their agreed NASD annually (in a slightly different format to what was in the NAW)

Additional notes

- Reporting is supplemented by various other information provisions, e.g. SQs, mid-period performance assessment, Rebasing “removals” workbook
- The NAW and Monetised Risk workbooks were iterated through a process of rebasing post implementation of CNAIM v1.1

For ED2 we propose this can be expanded and simplified

- **Network Assets Workbook (NAW)**
 - Combines the NAW and Monetised Risk workbooks
 - Simplified structure
 - Delivers additional granularity of movements, e.g. as asset category level and split by asset replacement removals/additions
 - Translates volumes profiles into long term risk measure (whole life risk - NARMs)
- **Secondary Deliverables Reporting Pack (SDRP)**
 - Delivers all of the information requirements of ED2
 - Delivers additional granularity of risk movements, e.g. as asset category level and split by asset replacement removals/additions
 - Simplified workbook structure, e.g. risk matrices pre-determined by CNAIM v2.0
 - Variance analysis built into workbook

DEMONSTRATION OF WORKBOOKS

Discussion item: Interaction with EJPs

- We do not have a date yet for our next session on NARM / CNAIM.
- We are proposing to have a meeting post-Draft Determinations consultation publication and pre-SSMC publication. The purpose of this session will be to discuss and clarify any NARM related material within the Draft Determinations for the other three sectors, and an opportunity for stakeholders to flag any issues pre-SSMC publication.
- Date to be confirmed but this will be approx. mid-July.
- 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.