ofgem

Making a positive difference
for energy consumers

Guidance

RIIO-2 Regulatory Instructions and Guidance (RIGs) for Network Asset Risk Metric (NARM) Tables – for Electricity Transmission, Gas Transmission, and Gas Distribution (Version 1.0)

This document provides instructions and guidance to the electricity transmission[1], gas transmission[2], and gas distribution network[3] licensees. Its purpose is to enable them to complete the Network Asset Risk Measure (NARM) Regulatory Reporting Pack (RRP), for the RIIO-2 price controls. The guidance does not apply to electricity distribution licensees whose price control cycle is on a two-year lag and is due to commence on 1 April 2023.

This document provides general and specific guidance for populating the NARM RRP. It explains the scope of the NARM RRP data templates, what to consider when completing them, and where to find more information.

---

[1] RIIO-ET2 – relates to the three electricity transmission owners (ETO): National Grid Electricity Transmission plc (NGET), SP Transmission plc (SPT), Scottish Hydro Electric Transmission plc (SHET)
[2] RIIO-GT2 – relates to the gas transmission owner (GTO): National Grid Gas Transmission (NGGT)
[3] RIIO-GD2 – relates to the eight gas distribution network operators (GDN): Cadent – East of England (EoE), Cadent – London (Lon), Cadent – North West (NW), Cadent – West Midlands (WM), Northern Gas Networks (NGN), SGN - Scotland Gas Networks (Sc), SGN - Southern Gas Networks (So), Wales and West Utilities (WWU)

Contents

1. Introduction

Chapter Summary

This chapter sets out the purpose and structure of the NARM (NARM) Regulatory Reporting Pack (RRP) which will apply to the electricity transmission, gas transmission, and gas distribution network companies for RIIO-2.

Background

1.1.   RIIO-2 is the second iteration of price controls to be conducted under the RIIO (Revenue = Incentives + Innovation + Outputs) model. This applies to electricity and gas transmission network companies and to gas distribution companies from 1 April 2021 to 31 March 2026.

1.2.   Network Asset Risk Metric (NARM) is an evolution from RIIO-1 Network Output Measures (NOMs) and relate to the risk of asset failure (derived from the probabilities and expected consequences of asset failure). Through their asset management activities, such as replacement or refurbishment, network companies should ensure that the risk to consumers is maintained within reasonable bounds. This is an important part of the price controls, because it contributes to a significant proportion of the network companies totex and consumers could suffer significant detriment if the pursuit of short-term profit leads to unmanageable levels of degradation in the condition of network assets and ultimately to unacceptable levels of network asset failures.

1.3.   NARM sets network companies clearly defined outputs that require and encourage them to take more long-term view of their network asset risk.

1.4.   The NARM RRP is our method of collecting data to enable us to administer the Conditions of the Licence (the conditions which relate to the price control) which include monitoring the performance of Licensees against our final proposals/determinations, monitor compliance with price control obligations and to allow analysis between price controls and at the subsequent price control review.

1.5.   Our NARM RRP is part of an extensive regulatory reporting and monitoring pack, which will:

- allow us to collect data on total expenditure (Totex) for use in the annual iteration process (AIP); and
- provide a database of network company performance for us to draw on to set cost proposals at subsequent review periods.

1.6.   These instructions do not change any definitions or obligations contained within the electricity transmission or gas transporter licences applicable to each network company, and in the event of any conflict the licence conditions will always take precedence.

Use of the NARM RRPs

NARM RRPs

1.7.   The NARM RRPs are the means of annual monitoring and reporting. Their structure and content is a direct evolution of the NARM Business Plan Data Template (BPDT) which was, itself, used in our RIIO-2 Final Determinations[4] to determine the regulatory settlement for the RIIO-2 period for each network company.

1.8.   This guidance relates to the NARM RRP versions listed below and to any subsequent version of the NARM RRPs unless superseded by subsequent guidance:

- RIIO2_NARM_RRP_v1.0

General instructions and guidance

1.9.   The key points to note in completing the RRP templates are listed below. These apply unless otherwise stated on a specific table or in the guidance below:

1. The Licensee must take all reasonable steps to ensure the quality of its data. This will in all material respects be accurate, complete and fairly presented.

2. Where a table contains multiple years of data (historical and/or forecast) that was reported in a previous RRP template, the licensees should report, unless otherwise stated in the specific table guidance, data for all years that is to the best of its knowledge up to date and accurate. Licensees are required to explain any material data revisions in their accompanying narrative.

3. The Licensee must notify Ofgem of the likelihood of any significant revisions to improve data quality.

4. The NARM RRP tables are colour coded to reflect the action required. The colour key is as below:

Colour Key

Non-editable cell	abc
Ofgem input cell	
Company input cell	12.3
Calculation cell (sub-total)	12.3
Calculation cell (total)	12.3
Link from other sheet in workbook	12.3
Link from other workbook	12.3
Input not relevant	

5. Licensees should enter or amend data only in 'Company input cells' and should not insert or delete rows or columns unless otherwise indicated as permitted on a specific table or in the guidance below, or unless otherwise agreed with Ofgem.

---

[4] https://www.ofgem.gov.uk/publications/riio-2-final-determinations-transmission-and-gas-distribution-network-companies-and-electricity-system-operator

6. Workload units and outputs should be reported commensurate with the purpose for which such data is intended, taking into consideration the appropriate allocations that are necessary to complete the tables. Workload and outputs should be entered in the unit of measurement set out in this guidance or in the template.

7. Unless otherwise indicated in the guidance or templates financial values should be input as positive values.

8. Where a reportable value is zero or not applicable to a licensee then a zero character must be input rather than the cell being left blank.

9. Unless a licensee has an explicit agreement to the contrary with Ofgem, then risk values are to be derived in accordance with its most recently approved NARM Methodology. Where such an explicit agreement exists then the licensee should provide an explanation in its associated narrative document.

10. In order to differentiate from financial values, Monetised Risk values have the unit R£ when relating to annual risks, and LR£ when referring to longer term risks.

11. Monetised Risk values should be entered in millions (R£m or LR£m) shown to three decimal place.

12. Probabilities should be entered to three decimal places.

13. Workload volumes should be entered to one decimal place.

1.15. The purpose of this document is to provide instructions and guidance to enable the licensees to complete the NARM RRP. This document provides information on:

- the systems, processes, procedures, recording and provision of the required data

- reporting units

- levels of accuracy (including rounding)

- the methodology for calculating or deriving required numbers

- the provision of the data to the Ofgem (format, frequency etc.)

- reasons for the data requirement

- a glossary of terms used in the workbooks.

1.10. Data reported through the NARM RRP must be aligned with and be demonstrably reconcilable with the data reported through the Cost and Volumes RRP for the equivalent reporting year.

1.11. While every effort has been made to be as comprehensive as possible in developing this guidance, when network companies begin to propulate the data template, areas requiring further clarification or interpretation will inevitably arise. Where a network company is unsure of how to interpret the guidance in specific circumstances then it should seek clarification from Ofgem.

Provision of Monetised Risk data

1.12. All Monetised Risk values and consequences of failure should be reported in 2018/19 prices.

1.13. Forecast views of Monetised Risk shall represent the licensees best view following its best endeavours to take account of all relevant internal and external factors.

1.14. Unless a licensee has an explicit agreement to the contrary with Ofgem, then risk values are to be derived in accordance its most recently approved NOMs Methodology. Where such an explicit agreement exists then the licensee should provide an explanation in its associated narrative document.

1.15. Unless stated that lifetime or longer term risk then all risks to be reported are annual snapshot values and shall be derived in accordance with the licensee's NARM Methodology. Long term risks should be reported in accordance with the licensee's NARM Methodology or, if the NARM Methodology does not yet cover long term risk, then in accordance with the methodology agreed with Ofgem for RIIO-2 Business Plan. The licensees accompanying narrative document should state the basis on which long term monetised risk values have been derived.

Form of submission

1.17. Licensees should submit their NARM RRP in accordance with instructions given from Ofgem on the overall RIGS and RRP.

Structure of this document

1.16. This document is divided into sections reflecting the different component parts of the BPDTs workbooks. These are as follows:

- Chapter 2 provides instructions for the completion of the 'N1 Output Delivery' Worksheets.
- Chapter 3 provides instructions for the completion of the 'N2 Network Risk' worksheets.
- Chapter 4 provides instructions for the completion of the 'N3 Asset Category Risk' worksheets.

Publication

1.17. Ofgem is bound by the requirements of section 105 of the Utilities Act 2000 relating to the disclosure of information.

1.18. Ofgem recognises the value of improving transparency of information in regulating natural monopolies and we intend to continue to review to what extent to publish further disaggregated data and analysis alongside the RRP.

2. N0 Cover Worksheets

Purpose

2.1.   These worksheets contain general administrative information including details of the licensee making the submission, the template and submission version, and relationship of the NARM RRP to other RRPs submitted by the licensee etc.

Overview of worksheets

2.2.   The worksheets included within this chapter are:

Electricity Transmission	Gas Transmission	Gas Distribution
• N0 Cover • N0.1 Contents • N0.2 Submission Version History • N0.3 Template Version History • N0.4 Related Workbooks • N0.5 Data Constants • N0.6 Lookup References	Same for all sectors	Same for all sectors

N0 Cover

Purpose and use by Ofgem	This worksheet helps facilitate version control and efficient analysis of data.
General guidance on completing this worksheet	Licensee must select company (licensee) name from dropdown list in cell B12 and enter submission version number and submission date in cells B15 and B16 respectively. Licensees are required to assign a unique submission version number for each submission and re-submission. Submitted files must be given the filename indicated in cell B17 and saved as a Excel Binary Workbook (.xlsb)

Sector specific guidance

Electricity Transmission	N/A
Gas Transmission	N/A
Gas Distribution	N/A

Specific definitions for this worksheet

None	

N0.1 Contents

Purpose and use by Ofgem	Lists all worksheets in workbook. Checks for Error flags on individual worksheets.
General guidance on completing this worksheet	No licensee input required. Licensees should ensure that Data Error Check column does not return 'Error' flag for any worksheets before submission.

Sector specific guidance

Electricity Transmission	N/A
Gas Transmission	N/A
Gas Distribution	N/A

Specific definitions for this worksheet

None	

N0.2 Submission Version History

Purpose and use by Ofgem	Will be used to help track changes between licensee's submissions.
General guidance on completing this worksheet	Licensees are required to provide as much detail as is practical on changes between submission versions. Details of the overall submission should be entered in the green cells, with table specific detail entered in yellow cells. Licensees may add or insert as many green or yellow rows as required.

Sector specific guidance

Electricity Transmission	N/A
Gas Transmission	N/A

Gas Distribution	N/A

Specific definitions for this worksheet

None	

N0.3 Template Version History

Purpose and use by Ofgem	Contains details of changes to the template.
General guidance on completing this worksheet	Licensees should not make changes to the template and therefore licensees are not required to input this table unless instructed to make changes by Ofgem.

Sector specific guidance

Electricity Transmission	N/A
Gas Transmission	N/A
Gas Distribution	N/A

Specific definitions for this worksheet

None	

N0.4 Related Workbooks

Purpose and use by Ofgem	To ensure maintenance and alignment between related workbook submissions.
General guidance on completing this worksheet	This workbook contains two sections: • 'Linked To' (top section): Licensees should enter details of any workbooks that links to the NARM workbook, e.g. if link to project listing in the cost and volume pack. • 'Linked From' (bottom section): Licensees should enter details of any workbooks that NARM links to the NARM workbook or workbook that data from the NARM workbook. Licensees may add rows to either of the sections as required.

Sector specific guidance

Electricity Transmission	N/A

Gas Transmission	N/A
Gas Distribution	N/A

Specific definitions for this worksheet

None	

N0.5 Data Constants

Purpose and use by Ofgem	This table gives details of any constants used by licensee in populating the template. This will be used where appropriate to check consistency across the entire business plan.
General guidance on completing this worksheet	Licensees should enter details of data constants used in deriving the data contained in the NARM RRP submission.

Sector specific guidance

Electricity Transmission	N/A
Gas Transmission	N/A
Gas Distribution	N/A

Specific definitions for this worksheet

None	

N0.6 Lookup References

Purpose and use by Ofgem	Contains data for use in dropdown lists and other lookup values used in the template.
General guidance on completing this worksheet	Asset categories are a full list of asset categories agreed between Licensees and Ofgem's cost assessment teams. Licencee should not change asset categories.

Sector specific guidance

Electricity Transmission	N/A
Gas Transmission	N/A

Gas Distribution	N/A

Specific definitions for this worksheet

None	

3. N1 Output Delivery Worksheets

Purpose

3.1.   Provides relevant detail on type of interventions and intervention options for Monetised Risk Output delivery as well as details of projects or schemes for delivering outputs.

Overview of worksheets

3.2.   The worksheets included within this chapter are:

Electricity Transmission	Gas Transmission	Gas Distribution
• N1.1 NARM Summary • N1.2 Intervention Listing • N1.3 Project Listing • N1.4 ET Asset MR	• Same for all sectors	• Same for all sectors

N1.1 NARM Summary

Purpose and use by Ofgem	Provides summary of the intervention volumes and monetised risk for NARM asset categories. The summary tab also operates as an interface sheet with the sector specific Costs and Volumes RRP. The data reported through the Cost and Volumes RRP must reconcile with data reported through the NARM RRP. This worksheet and counterpart NARM_Interface worksheet in the CV RRP will help confirm alignment between the NARM output delivery (reported through the NARM RRP) with the associated costs of delivering those outputs (reported through the CV RRP). This worksheet aggregates the intervention volumes and outputs for each NARM Asset Category. NARM_Interface worksheet contained in the CV RRP provides intervention volumes and costs by NARM Asset Category. Intervention volumes reported in the CV RRP and intervention NARM RRP must align for each NARM Asset Category.

General guidance on completing this worksheet	This worksheet is auto-populated from the N1.3_Project_Listing worksheet. The licensee is required to ensure that the NARM intervention volumes reported those reported in the CV RRP are aligned. Should any misalignment occur due to a resubmission of either RRP, then the other RRP must also be resubmitted with input data updated to bring the two submissions back into alignment.

Sector specific guidance

Electricity Transmission	N/A
Gas Transmission	N/A
Gas Distribution	N/A

Specific definitions for this worksheet

None	

N1.2 Intervention Listing

Purpose and use by Ofgem	Provides details on interventions by asset category, the expected longevity of interventions and the annual profile of intervention volumes. The intended use of table is to understand the characteristics of interventions and the delivery profile of interventions.
General guidance on completing this worksheet	Licensees are required to provide details of all interventions that could potentially impact Monetised Risk. Licencees should populate the following columns: • NARM Asset Category, populated using drop down list (column B). • Item/sub-component, free entry cells (column C) • Intervention, populated using drop down list (column D)

	• Expected Life of Intervention, free entry cells (column E) Licensees should populate details of any intervention options with potential Monetised Risk impact. Column A, 'Intervention Type ID', is a unique identifier reference for the information entered in columns B to E. Licensees must ensure that information entered against an Intervention Type ID, in columns B to E, is a sole and unique representation of an asset intervention, to ensure a one to one relationship.

Sector specific guidance

Electricity Transmission	N/A
Gas Transmission	N/A
Gas Distribution	N/A

Specific definitions for this worksheet

NARM Asset Category	[To Be Confirmed] The asset grouping that is relevant for NARM reporting purposes for each sector: • Electricity transmission: seven categories at each of the three voltage levels (132 kV, 275 kV, 400 kV) making 21 asset categories in total • Gas transmission: 37 secondary asset categorie • Gas distribution: 18 secondary asset classes
Item/sub-component	Where known the specific asset component(s) replaced or refurbished or otherwise intervened on through a given intervention, if not the complete asset. Examples: Transformer – [Main Tank*][Selector*][Tap Change*][Divertor*][Selector*][Bushing*][Ancilliary Plant*]

	Circuit Breaker – [Drive Mech*][Pressure Vessel*][Main Tank*][Bushing*][Ancilliary Plant*] *please provide/ignore as required
Intervention	Description of the listed intervention
Expected Life of Intervention (yrs)	This is a free text field. Licensees are required to provide explanation of number of years they expect, on average, from the date of a given intervention type before a subsequent intervention will be required in order to address the failure modes that the the original intervention was planned to address. This may be given as a range of years to reflect uncertainty and the distribution across an asset population.

N1.3 Project Listing

Purpose and use by Ofgem	To understand the project delivery of a licensee's Monetised Risk Outputs. This data will be used to monitor licencee's delivery of their NARM targets and to understand how outturn compares to business plan assumptions as well as the impact and implications of any differences from what was assumed in setting RIIO-2 final determinations.
General guidance on completing this worksheet	Licensees are required to report schemes/projects/generic work programmes as set out in the sector specific guidance below. Licencees should populate the following columns: • Ofgem Project/Scheme Reference, free entry cells (column B) • Cost and Volume Asset Category, populated using drop down list (column C). • Funding Category, populated using drop down list (column D). • Risk Sub-Category, populated using drop down list (column E)

<table>
<tr><td></td><td>

- Intervention Type ID, populated using drop down list (column F).
- Qualitative Detail on Monetised Risk:
    - Impacts MR (Yes/No), populated using drop down list (column H)
    - Impact on (Pof/CoF), populated using drop down list (column I)
    - Additional Explanation, free entry cells (column J)
- Delivery Date (2022 to 2026), populated using drop down list (column L)
- Volume of Interventions (#), free entry cells (columns M)
- MR Delivered (R£m), free entry cells (columns O)
- Pre-Intervention (R£m), free entry cells (column P)
- Post-Intervention (R£m), free entry cells (column Q)
- Long Term Risk Benefit (LR£m). free entry cells (column R)
- Asset volume before intervention (#), free entry cells (columns U-AD)
- Asset volume after intervention (#), free entry cells (columns AE-AN)

Column A, NARM_Ref, is a project listing reference code for the NARM RRP. This will provide consistent, and unique identification, of line items for annual NARM RRPs.

Column G, Intervention, is a look-up function linked, via the Intervention Type ID, to the intervention information entered in N1.2_Intervention_Listing.

Column N, units, is auto-populated from N0.6_Lookup_Reference tab.

</td></tr>
</table>

	Column S, Intervention Delta is auto-calculated from the different of Post-Intervention and Pre-Intervention Monetised Risk (R£m).
	Columns AO and AQ, Total Asset vol. before and Total Asset vol. after, are the totals volumes determined from the data entered into columns U-AN. Column AQ, Volume Change, is the difference between the two.

Sector specific guidance

Electricity Transmission	All schemes that deliver Monetised Risk Outputs (A1) must be listed. If there is mis-alignment between the NARM RRP and cost and volume RRP, then the licencee must provide the suitable database mapping to re-establish the relationship between the NARM RRP and cost and volume RRP.
	ET Licencees should also use the Risk Sub-Category (column E) drop down to select the most relevant sub-category. The Risk Sub-Categories are; • ET – CB (Circuit Breaker) • ET – OHL Conductor (Overhead Line Conductor) • ET – OHL Fittings (Overhead Line Fittings) • ET – OHL Tower (Overhead Line Tower) • ET – Reactor • ET – Transformer • ET – UG Cable (Underground Cable)
Gas Transmission	All projects that are separately identified and deliver a Monetised Risk Output (A1) must be listed individually. In order to reconcile with other RRP tables, licensee may group generic work programmes together to report as projects on this table. Any groupings must reconcile with GT cost and volume RRP. If there is mis-alignment between the NARM RRP and cost and volume RRP, then the licencee must provide the suitable database mapping to re-establish

	the relationship between the NARM RRP and cost and volume RRP. GT Licencee should also use the Risk Sub-Category (column E) drop down to select the most relevant sub-category. The Risk Sub-Categories are; • GT – Low • GT – Medium • GT – High
Gas Distribution	All projects that are separately identified within the business plan and deliver a Monetised Risk Output must be listed individually. In order to reconcile with other RRP tables, licensee may group generic work programmes together to report as projects on this table. Any groupings must reconcile and align with GD cost and volume RRP. For GD Licencees there is no subdivision of Baseline Network Risk Output, therefore, 'GD – Network' should be selected in Risk Sub-Category (column E) for all entries.

Specific definitions for this worksheet

Ofgem Project/Scheme Reference	The Ofgem Project/Scheme Reference should be consistent and align with the referencing used for the sector specific Cost and Volumes RRPs. Where a project/scheme delivers Monetised Risk Outputs in multiple Cost and Volume Asset Categories, then each Cost and Volume Asset Category should be recorded as a separate line item, a NARM referencing function has been included (column A) to ensure line items are unique.
Funding Category	Assets are classed into two high level categories: A. NARM Assets – assets where, by applying the relevant sector/company NOMs Methodology, the Monetised Risk of the asset can be estimated.

B. Non NARM Assets – his is work on assets or interventions not currently covered by a network company's NARM Methodology. Some assets may be brought into the scope of NARM during RIIO-2 for including in future price controls. This will be dependent on development of suitable methodologies for deriving Network Risk Outputs.

For Category A (NARM Assets), some will be subject to NARM funding and incentive mechanisms and others may not be. Category A assets can therefore be further assigned to three sub-categories:

A1 – NARM Funding Adjustment and Penalty Mechanism
this is work within the initial scope of the NARM Funding Adjustment and Penalty Mechanism and which contributes to a company's BNRO. Network companies have discretion to design their delivery programmes to efficiently delivery their BNRO (i.e. trade risk).

A2 – Funding Under Separate Mechanism
this is work delivering Network Risk Outputs that is not currently within the scope of the NARM Funding Adjustment and Penalty Mechanism (e.g. replacement or refurbishment work carried out and funded as part of a load related scheme). The Network Risk Outputs associated with this work does not contribute to the BNRO. However, should the case for funding under the original mechanism fall away then, subject to any specified qualifying criteria, the Network Risk Output associated with this work may contribute to a company's final ONRO.

A3 – Ring-fenced Project/Activity
this is work that will deliver Network Risk Outputs but which is not within the scope of the NARM Funding Adjustment and Penalty Mechanism. The Network Risk Output associated with this work will not contribute to a

	company's final ONRO. Licensees are required to populate in the 'Funding Category' column the category (A1, A2, or A3) that was agreed for that project, scheme, or generic work programme.
Risk Sub-Category	For the ET and GT sectors, the A1 category is further segmented into 7 and 3 Risk Sub-Categories respectively. The NARM Funding Adjustment and Penalty Mechanism will operate independently for each Risk Sub-Category, and network companies will not be permitted to automatically trade risk across Risk Sub-Categories. However, there may be crossover considerations when it comes to justifying over-delivery or under-delivery of BNRO (e.g. over-delivery in one Risk Sub-Category might justify under-delivery in another). See sector specific guidance for further detail.
Intervention Type ID	When selecting the suitable intervention type ID (column F), licencees should ensure the selection aligns with the correct intervention that is documented on N1.2_Intervention_Listing.
Qualitative Detail on Monetised Risk	Section allows licencees to enter qualitative information against line items. The qualitative information to be entered is: • Impacts MR (Yes/No), is an indicator for whether there is a monetised risk impact project/scehme. • Impact on (PoF/CoF), is to indicate the specific benefit gained through the intervention. • Additional explanation, is to allow the licencee to provide any supplementary information.
Delivery Date	Delivery date is the date of delivery for the intervention volumes. Licencees should provide their current and forecast intervention delivery year to the best of their knowledge.

Volume of Interventions (#)	Volume of interventions is the number of intervention completed. Licencees should make their best and most reasonable effort to populate intervention volumes based on their current understanding and knowledge of their delivery work programme.
Monetised Risk (R£m): Pre-Intervention	Pre Intervention is the forecasted monetised risk position without intervention at End of 2025/26 (i.e. snapshot view) for associated asset category under reported project/scheme.
Monetised Risk (R£m): Post-Intervention	Post Interrervention is the forecasted monetised risk position with intervention at End of 2025/26 (i.e. snapshot view) for associated asset category under reported project/scheme.
Long Term Benefit	The long term benefit resulting from replacements and refurbishments forecast to be delivered over RIIO-2. For long term benefit output calculation: 1. Benefits shall be calculated by appling the assumption that all interventions take place at the end of RIIO-2 2. Only the benefits of the interventions proposed for delivery in RIIO-2 are to be included for the purpose of calculating RIIO-2 outputs. The benefit of any subsequent interventions assumed for other purposes, such as for CBA, shall be discounted for this purpose. 3. Outputs should be discounted using the same discount factors as per those for Business Plan submissions, unless otherwise agreed with Ofgem in advance of submission.

4. N2 Network Risk Worksheets

Purpose

4.1.   The purpose of these worksheets is to enable understanding of the total monetised risk on the network at both the start and end of RIIO-2, including the distribution of Monetised Risk, and impact on risk and risk movements of individual asset categories, risk factor components, and interventions.

Overview of worksheets

4.2.   The worksheets included within this chapter are:

Electricity Transmission	Gas Transmission	Gas Distribution
• N2.1 Network Risk Summary • N2.2 Risk Bandings • N2.3 RIIO2 Risk Start 2021 • N2.4 RIIO2 Risk Without 2026 • N2.5 RIIO2 Risk With 2026 • N2.6 Risk Comp Start 2021 • N2.7 Risk Comp Without 2026 • N2.8 Risk Comp With 2026	Same for all sectors	Same for all sectors

N2.1 Network Risk Summary

Purpose and use by Ofgem	Provides summary view of Monetised Risk on a network at start and end of RIIO-2 disaggregated by Asset Category.
General guidance on completing this worksheet	This worksheet is auto populated and requires no input from licensees.

Sector specific guidance

Electricity Transmission	N/A
Gas Transmission	N/A
Gas Distribution	N/A

Specific definitions for this worksheet

None	

N2.2 Risk Banding

Purpose and use by Ofgem	Defines the risk banding that each licensee will utilise for reporting purposes.
General guidance on completing this worksheet	Licensees are required to report the minimum and maximum points of the Risk and Probability of Failure (PoF) bands that was agreed, and is consistent with, those used in the licencee's Network Asset Risk Workbook (NARW).

Sector specific guidance

Electricity Transmission	N/A
Gas Transmission	N/A
Gas Distribution	N/A

Specific definitions for this worksheet

None	

N2.3 – N2.5 RIIO2 Risk Start 2021/Without 2026/With 2026

Purpose and use by Ofgem	Provides summary view of distribution profile of Monetised Risk on a network at start and end of RIIO-2 disaggregated by Asset Category.
General guidance on completing this worksheet	Licensees are required to their view on these three worksheet on the following: • N2.3 RIIO2 Risk Start 2021 – this should align with the start position set out in the licencee's Network Asset Risk Workbook (NARW). • N2.4 RIIO2 Risk Without 2026 – this should be current view (2022) which is based on the assumption that no additional work (above work

	assumed for N2.3) will take place to the end of 2025/26 • N2.5 RIIO2 Risk With 2026 – this view should be the current view (2022) based on the interventions reported on tables N1.2 and N1.3 being delivered in the year planned. Licensees are required to report PoF, and Volumes for total population of each NARM Asset Category on each worksheet. Risk is auto-populated from N3 tabs in the workbook.

Sector specific guidance

Electricity Transmission	N/A
Gas Transmission	N/A
Gas Distribution	N/A

Specific definitions for this worksheet

None	

N2.6 – N2.8 Risk Components Start 2021/Without 2026/With 2026

Purpose and use by Ofgem	Provides summary view of distribution profile of Monetised Risk on a network at start and end of RIIO-2 disaggregated by Asset Category and by component elements of risk (i.e. Environmental Risk, Safety Risk, System Risk, Financial Risk).
General guidance on completing this worksheet	Licensees are required to their view on these three worksheet on the following: • N2.6 Risk Component Start 2021 - this should align with the start position set out in the licencee's Network Asset Risk Workbook (NARW). • N2.7 Risk Component Without 2026 – this should be current view (2022) which is based on the

	assumption that no additional work (above work assumed for N2.3) will take place to the end of 2025/26 • N2.8 Risk Component With 2026 – this view should be the current view (2022) based on the interventions reported on tables N1.2 and N1.3 being delivered in the year planned. Licensees are required to report breakdown of Total Risk into Environment Risk, Safety Risk, System Risk, and Financial Risk for total population of each NARM Asset Category on each worksheet. Environmental, Safety, System, and Financial risks should be reported utilising the same banding as for Total Risk, i.e. each component risk value should sum up to the total risk values in each band.

Sector specific guidance

Electricity Transmission	N/A
Gas Transmission	N/A
Gas Distribution	N/A

Specific definitions for this worksheet

None	

5. N3 Asset Category Risk Worksheets

Purpose

5.1.   The purpose of these worksheets are to provide details, for each Asset Category, of the factors forecast to contribute to the risk movements over two time steps (i.e. remaining two years of RIIO-1 and five years of RIIO-2), and to provide view of the long term benefit forecast to be delivered by a licensee's replacement and refurbishment activities over RIIO-2.

Overview of worksheets

5.2.   The worksheets included within this chapter are:

Electricity Transmission	Gas Transmission	Gas Distribution
• N3.00 Asset Category Risk Summary • N3.*n tabs*	• N3.00 Asset Category Risk Summary • N3.*n tabs*	• N3.00 Asset Category Risk Summary • N3.*n tabs*

N3.00 Asset Category Risk Summary

Purpose and use by Ofgem	Provides summary view, by Asset Category, of the factors that contribute to the risk movements over two time steps (i.e. Closeout of RIIO-1 and the five years of RIIO-2). This data will be used to monitor licencee's delivery of their NARM targets and to understand how outturn compares to business plan assumptions as well as the impact and implications of any differences from what was assumed in setting RIIO-2 final determinations.
General guidance on completing this worksheet	This worksheet is auto populated and therefore no licensee input is required.

Sector specific guidance

Electricity Transmission	N/A
Gas Transmission	N/A
Gas Distribution	N/A

Specific definitions for this worksheet

None	

N3.*n* tabs

Purpose and use by Ofgem	Provides detailed view, for each Asset Category, of the factors forecast to contribute to the risk movements over two time steps (i.e. Closeout of RIIO-1 and the five years of RIIO-2). This data will be used to monitor licencee's delivery of their NARM targets and to understand how outturn compares to business plan assumptions as well as the impact and implications of any differences from what was assumed in setting RIIO-2 final determinations.

General guidance on completing this worksheet	Licensees are required to report the impact on monetised risk, and distribution of asset volume in Risk and PoF, due to the following factors likely to contribute to risk movements:
	
	1. Stage 1: RIIO-1 to RIIO-2 True-up
	   a. Data Revision
	   b. Methodological Change
	   c. Option Entries
	2. Stage 2: Without Intervention Risk Change
	   a. Original Deterioration
	   b. Revised Deterioration
	   c. Revised Forecast Methodology Change
	   d. Load related work
	      i. Asset Additions (not part of replace or refurb)
	      ii. Asset Disposals (not part of replace or refurb)
	   e. Changes to Maintenance Programme
	   f. Manual Over-ride on PoF or CoF
	   g. Extension of Expected Asset Life (not required for business plan submission)
	   h. Consequence Interventions
	   i. Option Entry
	3. Stage 3: With Intervention Risk Change
	   a. Methodology Change Impact
	   b. Data Revision Impact
	   c. Manual Over-ride on PoF or CoF
	   d. Extension of Asset Life
	   e. Consequence Interventions
	   f. Asset Replacement (PoF driven)
	   g. Asset Replacement (CoF driven)
	   h. Asset Replacement (Other Driven)
	   i. Asset Refurbishment (PoF driven)

Guidance – RIIO-2 Business Plan Data Template Guidance for Network Asset Risk Metric Tables

<table>
<tr>
<td></td>
<td>

     j.   Asset Refurbishment (CoF driven)
     k. Asset Refurbishment (Other Driven)
     l.   Asset Replacement Due to Early Life Failures (not required for business plan submission)
    m. Optional Entry

Licensees are also required to report the long term benefit of replacement and refurbishment activities forecast to be delivered in a given year. Long term risks should be reported in accordance with the licensee's NARM Methodology or, if the NARM Methodology does not yet cover long term risk, then in accordance with the methodology agreed with Ofgem for RIIO-2 Business Plan.

Non like for like replacements: Licensess are required to report the removal and addition elements of non-like-for like replacements (e.g. replacing a 132kV Transformer with a 275kV Transformer, or replacing on iron main with a PE main) split across the two categories.

For example. replacing 5km Iron Mains with 5km PE Mains:

- Input 'replacement removal' as –ve numbers (i.e. -5 in R10 band) in the corresponding replacement driver row in Iron Main tab;
- Input 'replacement addition' as +ve numbers (i.e. +5 in R2 band) in same row but different risk band in PE Mains tab;
- Input Volume Impacted for the removed asset as the absolute value of 'replacement removal' numbers (i.e.. 5 in Column T in Iron Mains tab);
- Input Volume Impacted for the added asset as the 'replacement addition' numbers (i.e. +5 in Column T in PE Mains tab).

</td>
</tr>
</table>

Sector specific guidance

Electricity Transmission	N/A
Gas Transmission	N/A
Gas Distribution	N/A

Specific definitions for this worksheet

28

Long Term Benefit of Interventions During RIIO-2	The long term benefit resulting from replacements and refurbishments forecast to be delivered over RIIO-2 (please refer to general guidance of tab N1.3 for calculation of long term benefit).
Asset Additions (not part of replace or refurb)	As per 'Addition' definition in Appendix 1 At this stage licensees are not required to report the impact of any new network assets that are planned in RIIO-2 (other than those added as part of a replacement). If a load related (or growth) project contains an element of replacement or refurbishment, then the impact of the replacement or refurbishments should be reported as Asset Replacement (Other Driven) or Asset Refurbishment (Other Driven) – see below.
Asset Disposals (not part of replace or refurb)	As per 'Removal' definition in Appendix 1
Deterioration	Actual or forecast deterioration of asset assuming no intervention.
Manual Over-ride on PoF or CoF	Any change in licensees view of the PoF or CoF based on engineering judgement to account for factors not directly covered by defined rules under the NOMs Methodology e.g. application of a PoF or CoF modifier parameter to account for an identified type issue.
Extension of Expected Asset Life	Any change due to revised view on the expected life of an asset or a revision of the deterioration curve. An Expected Asset Life extension applies to an Asset Category as a whole or to an Asset Family and may be applied due to updated data on asset failures or better understanding of failure modes.
Asset Replacement (PoF driven)	Replacement aimed at reducing risk, where the probability of failure or asset health justifies intervention.
Asset Replacement (CoF driven)	Replacement aimed at reducing risk, where consequence of failure justifies prioritisation for intervention over assets of similar risk and/or higher probability of failure/worse asset health.

Asset Replacement (Other Driven)	Replacement other than PoF/CoF driven (including load-related replacement work).
Asset Refurbishment (PoF driven)	Refurbishment aimed at reducing risk, where the probability of failure or asset health justifies intervention.
Asset Refurbishment (CoF driven)	Refurbishment aimed at reducing risk, where the consequence of failure justifies prioritisation for intervention over assets of similar risk and/or higher probability of failure/worse asset health.
Asset Refurbishment (Other Driven)	Refurbishment other than PoF/CoF driven (including load-related refurbishment work).
Indirect Interventions	As per 'Indirect Intervention' definition in Appendix 1. To be populated under option entry, if required.
Changes in Maintenance Programme	Changes in risk due to change of maintenance programme.
Asset Replacement Due to Early Life Failures	Changes in risk due to unplanned replacement of failed assets.
Methodological Changes	Changes in risk due to changes in NOMs Methodology.
Data Cleanse	Changes in reported risk due to correction of data errors detected during the year.
Optional Entry	Any changes in risk not falling within any other category.

Appendix 1 – Glossary and Definitions

A

Addition

The addition of an asset to the network of load related work, not including additions carried out as part of a replacement or refurbishment activity.

Asset Category

[To be Confirmed] The asset grouping that is relevant for NARM reporting purposes for each sector:

- Electricity transmission: seven categories at each of the three voltage levels (132 kV, 275 kV, 400 kV) making 21 asset categories in total
- Gas transmission: 37 secondary asset categories
- Gas distribution: 18 secondary asset classes

Asset Family

A subdivision of an Asset Category where differentiation within an Asset Category is required due to differences in deterioration characteristics, expected asset life, or methodological approach to deriving Monetised Risk.

C

Costs and Volumes RRP

The RIIO-2 ET, GT or GD specific cost and volume regulatory reporting pack (RRP). The cost and volume RRP is how we collect data to enable us to administer the Conditions of the Licence (the conditions which relate to the price control) which include monitoring the performance of Licensees against our final proposals/determinations, monitor compliance with price control obligations and to allow analysis between price controls and at the subsequent price control review.

D

Disposal

See removal

I

Indirect Intervention

Any intervention on a network asset, or other infrastructure asset, that modifies the probability of failure, or consequence of failure of another network asset.

So it is an indirect intervention from Asset B's perspective, and it is designed for the specific purpose of reducing risk on specific assets, and indirect intervention can include, for example:

   a. installation or removal of physical infrastructure designed to prevent damage to adjacent assets in the event of an asset failure (e.g. installation of a blast wall).

   - in such a case the risk reduction impact on the protected adjacent assets should be entered as 'Indirect Intervention' risk

   b. addition or disposal that increases or decreases the resilience of a local or regional network and hence modifies the consequence of failure of other asset(s) in the locality or region.

   - the risk impact on the other network assets should be entered as 'Indirect Intervention' risk. The risk impact of the additions and disposals themselves are not included in this category.

M

Maintenance & Repair

Any activity required or assumed to be necessary to achieve the expected life of an asset. Maintenance & Repair activities, if carried out as assumed to be necessary, do not impact the Monetised Risk of an asset.

Monetised Risk

The risk value associated with an asset(s) as derived in accordance with the relevant licensee's Network Output Measures (NOMs) methodology. Unless otherwise stated, reference to 'Risk' means 'Monetised Risk'.

Monetised Risk Output

The risk benefit delivered or expected to be delivered by an asset intervention. The difference between without intervention and with intervention Monetised Risk. Can be measured over one year or over a longer period of time.

N

NARM Assets

Assets where, by applying the relevant sector/company NOMs Methodology, the Monetised Risk of the asset can be estimated.

R

Refurbishment

A one-off activity undertaken on an asset that is deemed to be close to end of life or is otherwise requiring intervention that extends the life of that asset or restores its functionality. This activity does not result in the recording of a new or disposed asset in the Asset Register, but may improve the health indicator (or probability of failure) of the asset. Refurbishment can include the replacement or reconditioning of components of an asset.

Removal

The permanent removal of an asset from the network, not including removals carried out as part of a replacement or refurbishment activity.

Replacement

Asset replacement is an activity undertaken by a network company to remove an existing asset(s) and install a new asset. The asset replacement activity includes:

- the installation of replacement assets
- the dismantlement of existing assets where the dismantlement is undertaken as part of the asset replacement works.