Northern Gas Networks

NARMs RIIO-2 Business Plan Data Template Commentary

December 2019

we are the network

Introduction

This document is the accompanying narrative requested by Ofgem in the RIIO-2 Business Plan Data Template (BPDT) Guidance for Network Asset Risk Metric (NARM) Tables. This narrative details the assumptions made in populating the NARMs RIIO-2 Business Plan Data Template, as well as detailing changes to the data and methodology between the October 2019 and December 2019 table submissions.

Best endeavours have been used to populate the tables accurately; however, it should be noted that sub-setting risk below asset level may be subject to rounding and dissection errors. This issue has been raised to Ofgem in the NARMs cross-sector working groups. The BPDT NARMs tables have been subject to a thorough checking and audit process to ensure accuracy, with the exception of long-term risk values for N1.3 and N3.0x data tables, the reason for this is explicitly outlined in the General Population Assumptions below.

General Population Assumptions

The following assumptions have been applied in populating the NARMs RIIO-2 Business Plan Data Template:

1. All risks have been calculated with RIIO-GD2 interventions taking place in year 5 (2025/2026). This deviates from the guidance that has been published by Ofgem, but is in alignment to the requirements set out by Ofgem in the NARMs cross-sector working group meetings throughout 2019. This discrepancy in the guidance has been previously highlighted in discussions with Ofgem, however the guidance has not been updated to reflect Ofgem's requirements.

2. Northern Gas Networks risk reporting system (C55) has been set up and audited at 2014/15 price base. Due to being part way through RIIO-GD1, we are unable to update the price base in our C55 system until the start of RIIO-GD2 as this would impact our RIIO-1 Table 7.3 reporting. As such, all risk values have been calculated in accordance with the current RIIO-1 Table 7.3 reporting methodology, before being manually manipulated to meet the requirements in the RIIO-GD2 template. We have inflated our C55 system outputs to a 2018/19 price base by using the single adjustment factor, 1.10810039601737, which was calculated using the financial year average RPI factors in the final RIIO-GD2_CBA Template_v4. This ensures the price base is as consistent as possible with the CBAs and financial BPDTs. There are differences in calculated risk impacts between the BPDT and CBAs for carbon, which takes volumes of gas consumed and leaked as an input and uses factors and values that differ slightly from the GD1 regulatory reporting models. Risk bands for reporting have not been adjusted for inflation and remain the same as our risk reporting bands for RIIO-GD1.

3. Best endeavours have been used to populate 'N1.3 Project Listing' tab, however, there is limited guidance on how this links to other BPDTs. The inconsistency between these tables has resulted in additional dissection of risk, which may result in inconsistencies. Total risk and benefit at asset class level should always be taken as the true and correct version, over subsets of risk.

4. The ten Health and Risk bands do not relate in any way to the five Health (HI1 to 5) and Risk (RI1 to 5) used in the Health and Risk Indices methodology in RIIO-GD1. There

is no common banding across the GDNs and each GDN has determined their own approach for setting the width of the bands, and therefore comparison between health and risk bands between networks is inappropriate. Northern Gas Networks has determined the bands using a linear in nature approach (equal in size) and has specified the banding for each asset sub-group to provide a meaningful distribution of assets across the ten bands across both RIIO-GD1 and GD2. The bandings that Northern Gas Networks have utilised are detailed in the NARMs BPDT table in the tab 'N2.2 Risk Bandings'.

5. Best endeavours have been used to calculate long term benefit for tabs 'N3.0x' and 'N1.3 Project listing'. Due to the complexity of subdividing risk by asset type, funding category and intervention type, which significantly deviates from the approved NARMs methodology; there is high potential for manual calculation errors, particularly where cohorts are used. This is due to the long complex formulae required to manually manipulate the outputs from our asset management system (which align to the current agreed methodology) into this new format. This has meant that quality assurance of this output could not be undertaken. Providing these long term benefit values deviates from our agreed position with Ofgem that was previously set out in the 'Long_term_Risk_Benefit_Paper_v2.docx' which was submitted to Ofgem by the Safety and Reliability Working Group on 22/10/2019. In this paper we agreed to provide Ofgem breakdown of discounted Long Term Benefit by asset type and leave N1.3 and N3.0x values blank. Following discussions with Ofgem on 18/11/2019, Northern Gas Networks have decided to include these fields to stimulate discussion in January 2020 between Ofgem and the Safety and Reliability Working Group with regards to amending the NARMs BPDT so that it is auditable, practical and does not deviate significantly from the agreed NOMs methodology. Discounting has **not** been applied to these long term benefit values due to the added level of complexity that this adds to the manual manipulation to obtain this output. As deriving this value deviates significantly from the agreed methodology there also isn't an agreed approach for all the GDNs, therefore we cannot guarantee alignment with the other GDNs submissions for long-term benefit. As such, this should **not** be assumed to maintain the same level of accuracy as the rest of the NARMs BPDT which has been suitably audited and a level of consistency agreed with the other GDNs.

6. Discounting has only been applied to Long Term benefit on tab 'N3.99.1_GD_Discounted_LTB' as agreed between Ofgem and the Safety and Reliability Working Group. The detailed methodology was submitted to Ofgem from the Safety and Reliability Working Group on 22/10/2019, 'Long_term_Risk_Benefit_Paper_v2.docx'. This tab has been added by Northern Gas Networks by instruction from Ofgem, but is not included in the tab 'N0.3 Template Version History'.

7. Where intervention categories are not directly stated in 'N1.2 Intervention Listings', the closest category has been selected.

8. For 'N3.0x' tabs, Northern Gas Networks has assumed all 2019 risk should be recorded in risk band R1, as this is not covered in the guidance.

9. Long-term benefit has been calculated in line with the methodology that was agreed and submitted to Ofgem by the Safety and Reliability Working Group on 22/10/2019, 'Long_term_Risk_Benefit_Paper_v2.docx. Northern Gas Networks have also populated the Long Term Benefit for the 'N1.3' and 'N3.0x' tabs, this is **undiscounted**.
10. The number of total expected asset failures has been used to populate the Probability of Failure (PoF) values.

Asset Specific Assumptions

The following asset specific assumptions have been applied in populating the NARMs RIIO-2 Business Plan Data Template:

1. Mains and Services are treated as cohorted assets due to the population size.
2. For Mains and LTS Pipelines, diversions have not been included in the forecast of Monetised Risk, due to these occurring ad-hoc and third party driven. Northern Gas Networks intends to report these annually as part of data refreshes and only forecast when actual diversion lengths are known.
3. Not all Iron Mains are in the mandatory replacement programs, only those in Tier 1 within 30m of a property and Tier 2A. Our focus is on ensuring that these mains (and associated services) are targeted first for investment. For tab 'N1.3 Project Listing', these have been classified as funding category 'A2 – Funding Under Separate Mechanism'. All other associated mains (and associated services) workload has been classified as 'A1 – NARM Finding Mechanism'.
4. There is no forecast for non-standard materials for Mains, this is due to the current material length being wholly replaced in RIIO-GD1. Any subsequent non-standard materials are those which may be identified during RIIO-GD2 due to data cleansing, and replaced within the year, in line with Health and Safety requirements.
5. Adjustment factors have been applied to the cohorted Mains and Services population to ensure alignment with RIGs table 6.2. This is consistent with RIGs table 7.3 assumptions.
6. A lay-abandonment ratio of 98% and 97.4% have been applied to mains for RIIO-GD1 and GD2 respectively. This is consistent with assumptions made in RIGs table 7.3.
7. There is a proportion of **unsurveyed Risers** that are not reported as part of NARMs in the RIGs table 7.3. These have been excluded from NARMs RIIO-2 Business Plan Data Template to ensure consistency.
8. For LTS assets 'Convert to OLI1' investments move risk from LTS Pipelines (non-piggable) to LTS Pipeline (piggable). This is consistent with the Mains example in the NARMs guidance.

Changes from October 2019 Submission

1. During the process of RIGs 2017 and the calculation of GD1 NOMs Rebasing targets a cost error was carried forwards in the benefit of Mains replacement, meaning surveys and inspection costs before and after intervention differed. This error has been kept

throughout RIIO-GD1 to ensure consistency with the GD1 target setting. For the RIIO-GD2 December submission, this has been corrected to ensure consistent baseline and intervened costs.

2. For the October submission Stubs, Zero Scoring and Phoenix Lined replacement lengths were excluded from the NARMs intervention lengths. These have now been finalised using Cost Benefit Analysis and the lengths have been added to the investment length for Mains for the December submission.
3. Since the last data refresh in April 2019 there are 13 Offtake / PRS systems that have been identified as having been decommissioned prior to April 2019. Northern Gas Networks felt it was important to include this data refresh in the RIIO-GD2 submission, despite it being inconsistent with RIGs 2019 table 7.3.
4. During the process of RIGs 2017 and the calculation of GD1 NOMs Rebasing targets an error was carried forwards for the Metering Failure types, meaning Metering asset risk was too high compared with other GDNs. This error has been kept throughout RIIO-GD1 to ensure consistency with the GD1 target setting. For the RIIO-GD2 December submission, this has been corrected to ensure consistency with other GDNs risk calculation, meaning risk has reduced significantly since October submission.
5. Permanent Isolation (Decommissioning) is an approved intervention for Risers, however this is not something Northern Gas Networks have previously needed to forecast. This intervention was not tested in our system and therefore was not included for October submission. This has now been tested and the Intervention risk reduction has been accounted for in the December submission.
6. 68 additional District Governors have been identified for replacement due to there being a capacity issue on the network. This has resulted in a larger risk reduction since October submission. These have been listed separately in the tab '1.3 Project Listing' due to the driver not being condition based (Project Ref 'General Reinforcement').
7. The October submission included a services risk that was incorrectly adjusted to the service population detailed in RIGs table 6.2. This has been corrected and has reduced the pre-intervention risk (2021 and 2026 without).

Summary of Risk Movements October – December Submission

- 2026 Risk Reduction October Submission (Point) = £25.05m
- 2026 Risk Reduction December Submission (Point) = £24.03m
- Difference = £1.02m