

NGN RIIO-2 Data Table Commentary

2.01 Opex Cost Matrix: Controllable Activity Costs

Commentary
<p>Section 6.6.1 P171 onwards provides further details of our Opex forecasts</p> <p>P173 includes a waterfall trace comparing RIIO-2 costs against the first 6 years of RIIO-1</p> <p>Highlights include:</p> <ul style="list-style-type: none">• Maintenance increasing by c£6m on average – see p177 for a detailed explanation• Emergency and Repair increasing from assumptions winters may be more severe, offset by efficiencies, innovation and reducing workload as a result of the repex programme – see p176 for a detailed explanation• Increased expenditure on Holder Demolition, simply because we will complete 23 holders in 5 years, rather than the 8 years of RIIO-1. Holders are a considerable safety risk cost to maintain.• An increase in investment in new Trainees rather than the adult recruitment we have done in RIIO-1, now we have rebalanced the age profile of our workforce. See P180• An increase in IT with respect to Cyber Security – see p179• An increase in Property between the price controls – this is already seen in RIIO-1, and reflects changes we have had to make and chosen to make in our portfolio. <p>These increases are then further offset by efficiency between the price controls, driven by our Efficiency challenge of 0.5% p.a. Please note this hasn't been applied to Insurance given the nature of this activity</p>

2.02 Opex Cost Matrix: Non-Controllable Activity Costs

Commentary
<p>See Section 6.6.5 of our plan – P181 onwards. Highlights include:</p> <ul style="list-style-type: none">• NTS Exit increasing materially based on the latest estimates from National Grid –our booking are not changing materially, but NG are rebalancing there charges nationally and our customers will pick up a larger share of this• Shrinkage reducing as a result of the Repex programme• Network rates increasing on average based on the latest increase in 2015/16• Pensions deficit decreasing as a result of our ABC scheme

2.03 Emergency

Commentary

Net Emergency costs and Repair allocation follows the costs on 2.01 above
The remainder are based on trend analysis

2.04 Maintenance

Commentary

See 2.01 above – costs here are increasing as described on p177 of our plan

2.05 Business Support Group / 2.06 Business Support Allocation

Commentary

Please also provide an explanation and justification of the allocation of Group Business Support costs to GDNs and other businesses (if applicable).

Key variances going forward include:

- IT increases in 2019/20 and then 20/21 – in both years we will increase our cyber security costs by c£325k each year. In addition in 2018/19 our licencing costs are very low – there is a point between systems migration to our new SAP Hana systems where we will pay no costs, these then increase again in 2019/20.
- Our insurance and claims costs are based on the average seen to date in RIIO-1 – we have limited control in particular in relation to claims which move materially
- Allocations between operational / non operational have been done on a best endeavours basis

2.07 IT & Telecoms Group

Commentary

We do not record costs at the level detailed here and so our IT Director has allocated costs on a best endeavours basis

2.08 Property Management Group

Commentary

See 2.01 above for comments on cost movements

2.09 Insurance Group

Commentary

See 2.05 above for comments on cost movements

2.10 CEO & Corporate: Network Costs

Commentary

We do not record costs at the level detailed here and so we have allocated costs on a best endeavours basis

2.11 Insource Outsource

Commentary

No additional comments

2.12 Real Price Effects (RPE) & Ongoing Efficiency

Commentary

As discussed at the Cost Assessment Working Group we have not included RPEs in our base costs and so only the Weighting and Ongoing Efficiency sections are completed

2.13 Full Time Equivalent

Commentary

This is completed on a best endeavours basis for the Contractor data in the table – we do not routinely collect this data. There is an immaterial variance between the Occupational Breakdown and our internal resource detailed above – the source data comes from different systems and was extracted at different times.

2.14 Training & Apprentices: Costs

Commentary

See P180 for further details on our Apprentice Strategy

2.15 Training & Apprentices: Programmes

Commentary

See P180 for further details on our Apprentice Strategy

2.16 Training & Apprentices: Numbers

Commentary

See P180 for further details on our Apprentice Strategy

2.17 Shrinkage

Commentary

The methodology for allocating Leakage Volume is complex and may vary between Networks. In accordance with established RIIO-1 regulatory reporting methods, during the preparation of our business plan we have utilised the criteria detailed in column AU of Table 2.17 to convert RIIO-1 shrinkage and leakage values in Gwh to CO2 equivalent emissions. In our RIIO-2 business plan and cost benefit analyses we have utilised alternative criteria to convert shrinkage and leakage values to CO2 equivalent emissions (77.31% methane content in natural gas reflective of our forecast network conditions and assumed global warming potential of methane of 28 reflective of latest guidance). As such, the CO2

equivalent emissions calculated from 2021/22 onwards in Table 2.17, as replicated in Table 5.10, are different to those present in our RIIO-2 Business Plan Document, Environmental Action Plan (Appendix A8) and Table 5.16.

2.18 Street Works

Commentary

This is completed on a best endeavours basis in particular for the efficiency impacts. The key takeaway is we expect all Local Authorities to have Schemes in place by the end of RIIO-1 and we estimate our costs may double to at least £4m p.a. in Totex. However due to the variability on how schemes are run this is difficult to predict and there is a significant margin for error. In addition there is a strong potential for Lane Rental Schemes to come in – we have no experience of these and we haven't included any forecast for this. Note none of this increase is included in our base costs – see section 5.2 of our Plan and the Snapshot tables and 5.18 for further details.

2.19 Low-Pressure Gasholders

Commentary

We will complete 23 holders in RIIO-2 in 5 years compared to the same amount over 8 years in RIIO-1, which explains the increased annual cost. Please see our gas holder strategy for further details – Appendix A25.

2.20 Land Remediation

Commentary

Overall costs are in line with the average expenditure in RIIO-1. Forecast site numbers per work type category are provided assuming the work type definitions remain the same as per RIIO-1. Work site surface areas provided assume that site areas remain the same as per current (December 2019) and may change in the event of future work site boundary changes (such land disposal or acquisitions). Cost estimates presented are based on the necessary works to ensure that site conditions remain compliant with statutory minimum requirements as determined based on assessment work undertaken during RIIO-1. NGN do not anticipate undertaking non-statutory remediation activities.

2.21 Statutory Independent Undertakings (SIU)

Commentary
N/A

2.22 Smart Metering

Commentary
We have reported in our annual RRP the impacts to date which have been low in terms of number of jobs and hence costs and consequently have not broken these out. In terms of future costs we cannot predict these as it would entirely depend on volumes, peaks, and geography covered which are not in our control.

3.01 LTS, Storage & Entry

Commentary
<p>See page 146 of our plan and Investment Decision Packs A23.c and A23.f for further details</p> <p>LTS Pipelines</p> <ul style="list-style-type: none"> • RIIO-2 costs include c.£20m for TransPennine which is a Price Control Deliverable (PCD). • Excluding the PCD, RIIO-2 is a 23% annual average reduction when compared to RIIO-1 (6 year average). <p>Offtakes & PRS’s</p> <ul style="list-style-type: none"> • Combined, RIIO-2 is a 23% annual average reduction when compared to RIIO-1 (6 year average). • The level of investment on PRS’s remains fairly consistent with RIIO-1 however we are spending less on our Offtakes.

3.02 Reinforcement

Commentary
<p>See page 150 of our plan and Investment Decision Packs A23.e for further details</p> <p>General Reinforcement</p> <ul style="list-style-type: none"> • RIIO-2 is a 35% increase when compared to RIIO-1 (6 year average). • The main reason for this increase is due to our investment on District Governors over capacity.

- Excluding this investment general reinforcement is falling by 18% between the two regulatory periods which aligns with RIIO-1 trends.

Specific Reinforcement

- RIIO-2 costs include for Large Loads which has been included as an uncertainty mechanism (re-opener).
- RIIO-2 is a 5% increase compared to RIIO-1 (8 year average to include the two large known projects Penrith and Sherburn) which aligns with RIIO-1 trends.

Unit Costs

- RIIO-2 unit costs align with RIIO-1 averages.

3.03 Governors

Commentary

See page 149 of our plan and Investment Decision Packs A23.h for further details

District Governors

- RIIO-2 is a 17% decrease from RIIO-1 (6 year average).
- Overall workload is in line with RIIO-1 however there are small changes between intervention types.
- Variance between price control periods is due to a reduction in unit costs.

Service Governors

- RIIO-2 is a 33% decrease from RIIO-1 (6 year average).
- Workload for both Domestic & Non-domestic are in line with RIIO-1.
- Variance between price control periods is due to a reduction in unit costs.

3.04 Connections

Commentary

See page 151 of our plan and Investment Decision Packs A23.d for further details

New Housing

- RIIO-2 is a 37% increase from RIIO-1 (6 year average).
- Workload forecasts follow RIIO-1 increasing trends which aligns with Local Authority housing plans.

Existing Housing

- RIIO-2 is a 9% decrease from RIIO-1 (6 year average).
- Workload forecasts following RIIO-1 decreasing trends.

Non Domestic

- RIIO-2 is a 12% increase from RIIO-1 (6 year average).
- Workload forecasts following RIIO-1 increasing trends.

Fuel Poor Network Extension Schemes

- RIIO-2 is a 40% decrease from RIIO-1 (6 year average).
- Workload reduction driven by changes in Ofgem's definition of fuel poverty.

3.05 Other Capex

Commentary

See p153 to 155 and Investment Decision Packs A23.g, i, j, k for further details

Other Capex

- RIIO-2 is a 22% decrease from RIIO-1 (6 year average).

Other Network Capex

- RIIO-2 is a 29% increase from RIIO-1 (6 year average).
- Plan to increase our Pressure Management capabilities in RIIO-2 to a further ten networks.
- We will continue to invest on our Overcrossings in RIIO-2 at a similar rate to RIIO-1.

Other Non-Network Capex

- RIIO-2 is a 38% decrease from RIIO-1 (6 year average).
- Plan to reduce our investment in Technology & Systems by 27% however intend to continue investing in hardware, software, emerging technology and security.

Formula Error

- Changed the formula in Row 58 to include Xoserve costs

3.06 Transport & Plant

Commentary

See p156 and Investment Decision Packs A23.k for further details

- RIIO-2 is a 18% increase from RIIO-1 (6 year average).
- We have used our Fleet Model to improve the way we make investment decisions and are planning to replace 528 vehicles in RIIO-2
- We have set ambitious targets for decarbonising our fleet and plan to have 50% of our total fleet as ultra-low emission by the end of RIIO-2.

4.01 Repex Mains Tier-1

Commentary

See p162 – 164 and Investment Decision Pack A23.M for further details.

- Tier 1 workload volume is based on straight-line abandonment of qualifying iron to achieve full decommissioning on 31st March 2032 in line with HSE requirements.
- There is a reduction in workload compared with RIIO-1 due to previous over-achievement of minimum HSE requirements.

4.02 Repex Mains Tier-2A

Commentary

See p164 and Investment Decision Pack A23.M for further details.

- Workload is based on forecast migration of Tier 2 iron pipes to above the Risk Action Threshold. This is subject to significant uncertainty and the actual volume delivered will depend on dynamic changes to pipe risk scores.

4.03 Repex Mains Tier-2B & 3

Commentary

See p165 and Investment Decision Pack A23.N for further details.

- Tier 2B workload is unchanged between RIIO-1 and RIIO-2 as an appropriate level to efficiently manage these assets.
- Tier 3 workload is increasing in RIIO-2 compared with RIIO-1 to address performance of the assets.
- Workloads have been assessed using CBA methodologies.

4.04 Repex Mains Other

Commentary

See p166 – 169 and Investment Decision Pack A23.N for further details.

- We are proposing a significant increase in the amount of steel mains replaced based on our own internal assessment and an expert external review carried out on behalf of all the GDNs.
- We have included expenditure to address legacy Tier 1 stubs. These were created as a consequence of moving to the 3-Tier Approach in RIIO-1.
- We have insufficient data available to reliably differentiate between surface types.

4.05 Repex Mains Diversions

Commentary

See p169 – 170 and Investment Decision Pack A23.N for further details.

- These are driven by third party requirements and we are forecasting a small increase in workload for RIIO-2 due to increased economic activity.

4.06 Capitalised Replacement

Commentary

We do not anticipate any activity in this area.

4.07 Repex Services

Commentary

See p157 – 170 and Investment Decision Packs A23.M & N for further details.

- The majority of services activity is associated with mains replacement.
- We have forecast relay after escape activity declining in line with metallic mains replacement.
- We have included Repex costs in RIIO-1 for UNC sub-deducts in row 345 (previously Non-Domestic Relay Other (Non-metallic) where we have no activity).

4.08 Repex Multiple Occupancy Buildings

Commentary

See p171 and Investment Decision Pack A23.N for further details.

4.11 Dynamic Growth Tier-1 Mains

Commentary

No comment

4.12 Robotic Intervention

Commentary

Although we use robotic methods (STASS) to condition joints we classify this as an Opex activity.

5.04 Capacity & Demand

Commentary

No comment

5.10 Business Carbon Footprint

Commentary

If any 'Other' rows contain aggregated emissions from multiple sources with different conversion factors, please provide further detail and explanation of how emission figures were calculated.

The annual RIIO-1 carbon emission values presented for 2013/14 to 2018/19 (inclusive) have been taken from the respective RIIO-1 RRP returns as prepared using our in-house BCF calculation tool, prevailing DEFRA conversion factors and measured consumption data from NGN and supply chain sources. The maximum level of data granularity based on existing RIIO-1 data has been provided in Table 5.10. In accordance with our existing RIIO-1 BCF reporting regime, business mileage undertaken in private vehicles are included in business transport (Scope 1) in order to be conservative.

It was not possible to retrospectively provide NGN operational transport and business transport carbon emissions by individual fuel type for RIIO-1 data due to existing reporting procedures, so all transport emissions are reported as diesel use as this is our predominant fuel use (>90% of total vehicle fuel use). Fuel combustion (non-building, own and contractor) emissions are included with operational transport as the fuel used is purchased via the same means and is not readily distinguishable from operational transport fuel consumption records. NGN are not required to measure fugitive emissions (own or contractor) or contractor building energy usage during RIIO-1 and as such have no data to report.

BCF carbon emission forecasts for 2019/20 and 2020/21 are based on our existing science-based carbon reduction targets as established in our Environment Strategy (see Environment Action Plan in Appendix A8 of our business plan document for further details).

The forecast BCF conversion factors provided for RIIO-2 and RIIO-3 represent 2019 DEFRA conversion factors which are assumed, in the absence of other information, to remain constant throughout RIIO-2 and RIIO-3. Forecast BCF volume figures have been provided for material carbon emission sources based on our proposed RIIO-2 carbon reduction initiatives, as detailed in our Environmental Action Plan (see Appendix A8 of our business plan document), based against existing RIIO-1 operational data. Diesel fuel combustion (non-building, own and contractors) is included in operational transport due to the fuel data restrictions identified above. NGN do not propose to measure and report fugitive emissions (own or contractor) as these are considered de minimis for our operations. In addition, we do not propose to measure and report carbon emissions associated with building energy usage within our contractor's own premises during RIIO-2. Our contractors work for multiple clients from multiple facilities and thus we do not consider it to be appropriate to measure and report emissions associated with energy use at fixed third party premises as they cannot be effectively apportioned to NGN only work. Furthermore, as we do not have existing RIIO-1 data for contractor building energy use carbon emissions we cannot provide an estimated forecast for RIIO-2 and RIIO-3.

Shrinkage carbon emissions are replicated in Table 5.10 rows 76, 77 and 78 from Table 2.17. As detailed in the commentary for Table 2.17, we have utilised alternative criteria to convert shrinkage and leakage values (Gwh) to CO2 equivalent emissions in our RIIO-2 business plan and cost benefit analyses compared to those used by Table 2.17. As a consequence, the CO2 equivalent emissions calculated from 2021/22 onwards in Table 2.17, as replicated in Table 5.10, are different to those presented in our RIIO-2 Business Plan Document, Environmental Action Plan (Appendix A8) and Table 5.16.

RIIO-3 forecasts provided in Table 5.10 demonstrate our ambition to achieve net zero Scope 1 and 2 emissions (excluding shrinkage) by 2030/31. Achievement of this ambition is influenced by future financial settlements received by NGN during RIIO-2 and RIIO-3, and for some of the individual carbon emissions sources will require reasonably foreseeable technological advancements, for example practicable zero emission commercial vehicles.

Carbon emissions by scope provided for RIIO-1, RIIO-2 and RIIO-3 are as follows:

- Scope 1: NGN metered gas use, operational transport, business transport and non-building fuel consumption.
- Scope 2: NGN electricity use in buildings and to charge electric vehicles (operational and business transport vehicles).
- Scope 3: Business transport via rail and air, contractor operational transport (road and air), contractor business transport, contractor non-building fuel consumption, transmission and distribution losses associated with electricity consumed by NGN, and carbon emissions associated with plastic gas pipe manufacture and distribution.

All carbon emissions presented in Table 5.10 assume a regulatory year of 1 April to 31 March.

5.11 Innovation

Commentary
No Comment

5.12 Cyber Security OT

Commentary
We do not record costs at the level detailed here historically and so our IT Director has allocated costs on a best endeavours basis.

5.13 Cyber Security IT

Commentary
We do not record costs at the level detailed here historically and so our IT Director has allocated costs on a best endeavours basis.

5.14 Physical Security Capex

Commentary
This covers Pannal in RIIO-1 – we currently have no further work planned for RIIO-2

5.15 Physical Security Opex

Commentary
This covers the costs of security at Pannal

5.16 Environmental Action Plan

Commentary

Historical carbon emissions performance data reported in Table 5.16 reflects data reported in Table 5.10 as taken from RIIO-1 RRP data. Where amendments to reported data are required in Table 5.16, for example the requirement to report only energy use in buildings (thus excluding energy use at gas infrastructure sites) the data has been amended from that presented in Table 5.10 and detailed explanation of the methodology used added under the 'Notes' column in Table 5.16. The 'average measure for RIIO-GD1 to date' provided as required in Table 5.16 is typically the arithmetic mean of the range of RIIO-1 values provided, as indicated in the 'Notes' column. NGN are not required to measure project embodied carbon or biodiversity at our sites during RIIO-1 and thus have no RIIO-1 performance data to provide. NGN have not had any recorded pollution incidents during RIIO-1, including no prosecutions for such occurrences, and have no RIIO-1 performance data to provide.

Forecast RIIO-2 performance data for the business as usual scenario typically utilise the range of recorded NGN RIIO-1 performances for the aspects in questions as the forecast lower and upper bounds. Forecast RIIO-2 performance data for the with RIIO-2 initiatives scenario assume full implementation of the Environmental Action Plan initiatives detailed in Table 5.16. Specific details regarding the methodology and assumptions of each RIIO-2 'business as usual' and 'with initiatives' performance forecast are provided in the 'Notes' column in Table 5.16. NGN are not required to measure project embodied carbon or biodiversity at our sites during RIIO-1. We commit to measuring these aspects during RIIO-2 in order to establish a baseline and allow a performance improvement target to be set during RIIO-2 but in the absence of an existing methodology or historical performance data we cannot provide a full RIIO-2 performance forecast. As per our RIIO-1 performance, NGN do not anticipate having any local pollution incidents during RIIO-2.

RIIO-2 shrinkage carbon emission forecasts have been directly entered into rows 96 and 97 of Table 5.16. As detailed in the commentary for Table 2.17, we have utilised alternative criteria to convert shrinkage and leakage values (Gwh) to CO2 equivalent emissions in our RIIO-2 business plan and cost benefit analyses compared to those used by Table 2.17. As a consequence, the CO2 equivalent emissions calculated from 2021/22 onwards in Table 2.17, as replicated in Table 5.10, are different to those presented in Table 5.16. The values in Table 5.16 align with the data presented in our RIIO-2 Business Plan Document and Environmental Action Plan (Appendix A8).

5.18 Bespoke Activities & Uncertainties

Commentary

No comment

Additional Commentary

1.02. BP Financial Requirements

Commentary

The debt values disclosed in rows 98, 101 & 102 (embedded fixed rate liabilities post impact of derivatives) include £505.0m of intercompany loans (proceeds of fixed rate bonds on-lent by financing subsidiary) that have been swapped to floating rate for life and re-fixed with overlay derivatives for a range of periods. This debt had originally been included in rows 110,113, & 114 (embedded liabilities linked to 6 month Libor post impact of derivatives) in accordance with the BPDT instructions and guidance. This did not, however, reflect the reality that this debt will effectively be at fixed rate at the start of GD2 (post derivatives impact) and will progressively revert to floating rate over the period as the overlay swaps mature (absent any subsequent re-fixes). As the closing debt balances in the BPDT table are formula-driven it would not be possible to represent the true position without introducing spurious fixed rate debt repayments and floating rate debt issuance. Following discussions with the Ofgem Finance team it was therefore agreed to include this debt in the fixed rate category (post derivatives impact) and include this explanatory note. For the avoidance of doubt, to retain internal consistency, the impact of the overlay derivatives on this debt has been stripped out of the overlay derivatives section of the BPDT table 1.02 (rows 150-158) and is instead reflected in the overall effective rate on embedded fixed rate liabilities post impact of derivatives (row 103).