Decision

RIIO-3 Final Determinations – Gas Distribution

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The next set of price controls for the Electricity Transmission (ET), Gas Distribution (GD) and Gas Transmission (GT) sectors will cover the five-year period from 1 April 2026 to 31 March 2031 (RIIO-3). In December 2024, the network companies in these sectors submitted their RIIO-3 Business Plans for this period to Ofgem. We assessed these plans and published our Draft Determinations for consultation on 1 July 2025. Following consideration of consultation responses, this document and others published alongside it set out our Final Determinations for the RIIO-3 price controls.

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Contents

1. Introduction

Purpose of this document

1.1 This document sets out our Final Determinations for the Gas Distribution (GD) price control for the four Gas Distribution Networks (GDNs) in Great Britain (GB) covering the five-year period from 1 April 2026 to 31 March 2031 (RIIO-GD3). All figures in this document are in 2023/24 prices and post our ongoing efficiency (OE) adjustment, except where otherwise stated.

What is gas distribution?

1.2 The GDNs are responsible for transporting gas locally to approximately 22 million homes and businesses, to industrial users and for power generation across GB.

1.3 Four GDNs own, operate and maintain the eight GB GD networks:

- Cadent Gas Ltd (Cadent) which incorporates East of England, North London, North West and West Midlands;
- Northern Gas Networks Limited (NGN);
- SGN Ltd (SGN) which incorporates Scotland and South East England; and
- Wales and West Utilities Limited (WWU).

What are we deciding?

1.4 In Chapter 2 we provide a summary of the key aspects of the RIIO-GD3 price control.

1.5 We explore the core outputs and incentives that underpin RIIO-GD3 in Chapter 3. This chapter sets out the incentives we are setting to help drive GDNs behaviours that benefit consumers; such as providing excellent customer service and limiting the duration of unplanned outages. It shows how we are enabling the GDNs to support consumers in vulnerable situations and lower their impact on the environment through reducing methane leakage. It also describes the RIIO-GD3 outputs that will hold the GDNs accountable for delivering the replacement expenditure (repex) programme, which improves the safety and resilience of the network and reduces methane leakage.

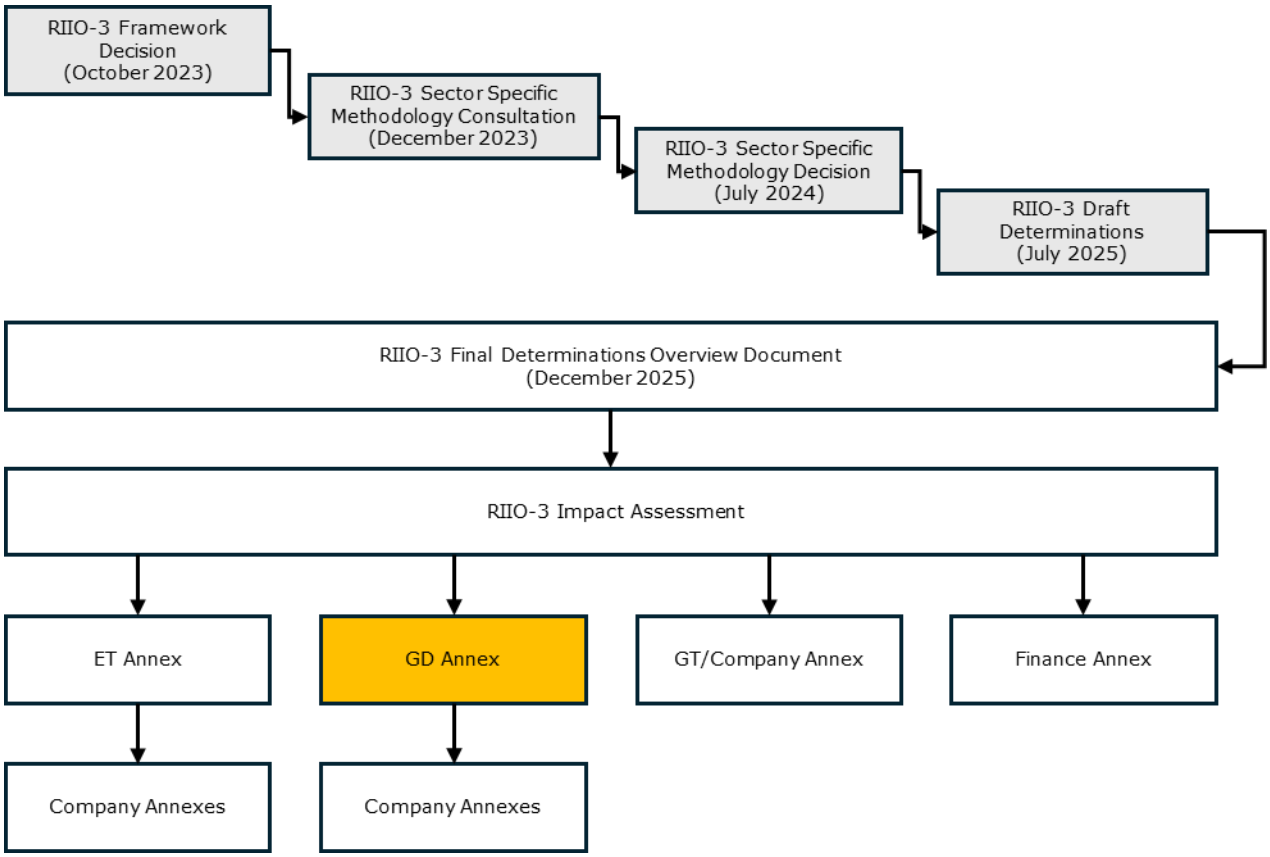
1.6 Chapter 4 sets out how we will manage uncertainty during RIIO-GD3. It describes the suite of uncertainty mechanisms (UMs) which will ensure that RIIO-GD3 is able to respond to the uncertainty around the long-term future of gas networks in the energy transition and allow additional funding where appropriate.

1.7 Chapter 5 sets out our approach to assessing the GDNs' costs and engineering justifications for the RIIO-GD3 period. This approach aims to ensure that there is sufficient investment to maintain a safe and reliable gas network, delivered at an efficient cost for consumers, while taking future gas uncertainty into account.

Navigating the RIIO-3 Final Determinations documents

1.8 The RIIO-3 Final Determinations are comprised of an Overview Document, a Finance Annex and sector annexes for ET, GD and GT. This document is the sector annex for GD. The sector annexes are underpinned by a RIIO-3 Impact Assessment, company annexes[1] and, where relevant, technical annexes. Figure 1 below maps all documents relevant to our suite of RIIO-3 Final Determinations, including the framework and methodology documents that have preceded it.

Figure 1: RIIO-3 Final Determinations map



1.9 Our Final Determinations have considered all previous feedback and consultation responses from network companies and other stakeholders, including the reports from the Independent Stakeholder Groups (ISGs) that were established to challenge each of the network companies on their stakeholder engagement and

[1] Throughout this document, 'company annexes' refers to the four GDN specific annexes to this document (their abbreviated names are Cadent Annex, NGN Annex, SGN Annex and WWU Annex).

business plans, and the feedback received in response to our RIIO-3 Call for Evidence.[2] Further details on our approach to embedding the consumer voice is set out in the Overview Document.

[2] Call for evidence on the electricity transmission, gas transmission and gas distribution business plans for RIIO-3 | Ofgem

2. RIIO-GD3 at a glance

We want GDNs to maintain a safe and resilient network, while managing uncertainty on the future of gas…

2.1 While the pace and scale of the transition away from natural gas remains uncertain, we do not expect large-scale, systematic changes to the natural gas networks during the RIIO-3 price control period.

2.2 Natural gas continues to play a vital role in heating homes and businesses, powering industrial processes and generating electricity. Ensuring the safe and secure delivery of gas, including enhancing resilience to cyber threats, remains a key priority for us.

2.3 We are allowing £14.6bn of upfront allowances to enable the GDNs to invest into and maintain their networks to deliver a secure, uninterrupted supply of energy to consumers. This includes £6.5bn for replacing deteriorating gas pipes (repex). This is a safety requirement set by the Health and Safety Executive (HSE), which also helps to significantly reduce methane emissions from the network.

2.4 To manage the uncertainty around the future of gas, we have only approved upfront investment which is justified by a clear needs case and consumer benefits. Additional flexibility is built into RIIO-GD3 through a suite of UMs, which will adjust funding in response to evolving needs, including government decisions on hydrogen heating and hydrogen blending.

2.5 We expect RIIO-GD3 to be the last steady-state price control for the GD sector; the HSE's 30-year Iron Mains Risk Reduction Programme (IMRRP), which drives the majority of repex investment, concludes in 2032. Over the course of RIIO-GD3, we will work closely with the HSE and the GDNs to develop a coordinated, value for money approach to asset management and repex that continues to ensure safety in the next price control. We are also funding the rollout of innovative technologies to improve the detection and repair of gas leaks. We expect the GDNs to collaborate during RIIO-GD3 to develop a consistent approach to using these technologies, ensuring they deliver value for consumers.

2.6 We also expect greater clarity on the future of the gas system ahead of the next price control, informed by government's review of this area and the strategic direction this will set for the sector.[3] A key focus of this work is to determine how to ensure fair and equitable recovery of network costs as the number of gas

[3] Midstream gas system: update to the market - GOV.UK

consumers declines. This will begin with government's upcoming call for evidence on network investment and cost recovery.

2.7 In the meantime, we will accelerate depreciation for new GD investment during RIIO-GD3, with flexibility to adjust this approach in line with the government's review. Our approach balances the need to limit RAV growth during RIIO-GD3 to protect future consumers from disproportionate costs, while ensuring current consumers are not unduly burdened. Further detail on this decision is set out in Chapter 7 of the Overview Document and Chapter 8 of the Finance Annex.

Prioritising consumer needs and environmental sustainability…

2.8 We also want to maintain the progress seen in previous RIIO price controls in relation to GDNs providing services that consumers value, including supporting and protecting consumers in vulnerable situations, and delivering a network that is environmentally sustainable. As such RIIO-GD3 will include:

- a strong emphasis on reducing methane leakage through a new financial incentive to encourage timely leak repairs, £57m of funding for innovative technologies to accelerate leak detection and repair, and flexible support for shrinkage management through UMs;
- a £165m dedicated allowance for supporting consumers in vulnerable situations and carbon monoxide safety, alongside funding within companies' upfront allowances for business as usual (BAU) vulnerability activities;
- incentives to maintain high service quality, with GDNs rewarded for achieving customer satisfaction scores that exceed thresholds set above 9/10;
- promotion of collaboration between GDNs and other utilities on streetworks projects by expanding the existing London-specific incentive into a nationwide scheme; and
- a £73m Network Innovation Allowance (NIA) across GD and access to portions of a £500m Strategic Innovation Fund (SIF) to support network innovation that contributes to the energy transition.

Maximising value for consumers

2.9 To deliver these objectives efficiently, we are allowing baseline totex allowances for all GDNs of £14.6bn, which is £2.5bn lower than in business plan submissions, as detailed in Chapter 5. This reflects our commitment to provide a credible and compelling overall package that allows the necessary investments to be made at a fair cost to consumers.

2.10 This difference from business plan submissions is driven three factors. The first is where we have undertaken a robust assessment of proposed costs and set allowances at efficient levels, with particular scrutiny on work not mandated by safety or legislation. This approach is prudent given uncertainty around the future of gas and the significant cost pressure currently on households and businesses. Secondly, where the need for the investment is accepted in principle, but justification for the proposed intervention is not robust or in consumers' interests, we have adjusted allowances. The third factor is the deferral of certain investment decisions to in-period UMs, when there is more clarity on the activities and costs required. This approach protects consumers from premature commitments while providing the GDNs a clear pathway to funding when needed.

2.11 Nevertheless, our Final Determinations totex allowances are £1.8bn higher than proposed in our Draft Determinations. This increase reflects new evidence from GDNs justifying investment, HSE policy changes affecting repex workloads, essential modelling corrections and adjustments, and incremental changes to values of the catch-up and ongoing efficiency challenges. Where the GDNs met the strict evidential bar set in our Draft Determinations to justify investment, we have allowed that expenditure. It is now essential that the GDNs deliver these investments efficiently and on time – particularly for critical safety driven work – while maintaining a high-quality service for customers.

2.12 We apply a stretching but deliverable ongoing efficiency target of 1.0% for all companies across RIIO-3. We consider this reflects the overall scale of investment expected, the opportunities presented from new technologies and approaches, including through data and digitalisation, and efficiency gains and innovation in the wider economy. We recognise that to achieve this, companies will need to find for new ways to drive costs lower, including by becoming more productive and innovative.

3. Outputs and incentives

Introduction

3.1 This Chapter sets out the package of outputs that will apply in RIIO-GD3, including Licence Obligations (LOs), Price Control Deliverables (PCDs), Use-It-Or-Lose-It (UIOLI) allowances and Output Delivery Incentives (ODIs).[4] It focuses on the common outputs which will apply to all GDNs – for details of outputs which only apply to a single GDN, see the company annexes.

3.2 The outputs are set out under the headings of the RIIO-3 outcomes:

- Infrastructure fit for a low-cost energy transition;
- Secure and resilient supplies; and
- High quality of service from regulated firms.

3.3 Table 1 and Table 2 outline the outputs and incentives for RIIO-GD3 and set out where you can find full details.

Table 1: Cross-sectoral outputs and incentives in RIIO-3

Output name	**Output type**	**Sector(s)**	**Further detail**
Network Asset Risk Metric (NARM)	PCD, ODI-F and ODI-R	ET, GD, GT	Overview Document
Physical Security	PCD and re-opener	ET, GD, GT	Overview Document
Cyber Resilience	PCD and re-opener	ET, GD, GT	Overview Document
Environmental Action Plan (EAP) and Annual Environmental Report (AER)	ODI-R and LO	ET, GD, GT	Overview Document and this document
Strategic Innovation Fund (SIF)	UIOLI	ET, GD, GT	Overview Document
Network Innovation Allowance (NIA)	UIOLI	ET, GD, GT	Overview Document
Totex Incentive Mechanism (TIM)	ODI-F	ET, GD, GT	This document
Operational Transport Emissions Reduction	PCD	ET, GD	Overview Document

[4] ODIs can be either financial (ODI-F) or reputational (ODI-R).

Table 2: Sector specific outputs and incentives in RIIO-GD3

Output name	Output type	Applied to	Further detail
7- and 28-Day Repair Standards	ODI-F	GD	This document
Tier 1 Mains Decommissioned	PCD	GD	This document
Tier 1 Services	PCD	GD	This document
Tier 1 Iron Stubs	PCD	GD	This document
Emergency Response Time	LO and ODI-R	GD	This document
Vulnerability and Carbon Monoxide Allowance (VCMA)	UIOLI	GD	This document
Customer Satisfaction	ODI-F	GD	This document
Disconnections Customer Satisfaction	ODI-R	GD	This document
PSR Customer Satisfaction	ODI-R	GD	This document
Complaints Metric	ODI-F	GD	This document
PSR Customer Complaints	ODI-R	GD	This document
Unplanned Interruptions	ODI-F	GD	This document
Collaborative Streetworks	ODI-F	GD	This document
Flow Weighted Average Calorific Value Compliance (FWACV) Compliance	PCD	Cadent	Cadent Annex
London Medium Pressure	PCD	Cadent	Cadent Annex
Grays Medium Pressure	PCD	Cadent	Cadent Annex
Tinsley Viaduct Diversion	PCD	Cadent	Cadent Annex
Mandated Category 3 Security	PCD	Cadent	Cadent Annex
Implementation of the DPLA	LO	Cadent	This document
Full Site and System Rebuilds	PCD	SGN	SGN Annex
South London Mains	PCD	SGN	SGN Annex
Pipeline Replacements	PCD	WWU	WWU Annex

Infrastructure fit for a low-cost energy transition

Shrinkage

3.4 Shrinkage is gas lost during its transportation through the network. It is made up of gas leakage, gas used by the network as part of its operations (eg to preheat gas prior to pressure reduction) and gas stolen from the network.

3.5 Reducing shrinkage is a key priority for RIIO-GD3. It provides significant environmental benefits by reducing methane emissions, which account for 90-95% of the GDNs' business carbon footprint (BCF). It also benefits consumers through reducing the cost of purchasing replacement gas.

3.6 RIIO-GD3 includes several mechanisms to support this objective:

- £51.9m funding for Advanced Leakage Detection (ALD) technology rollout, such as leak detection mounted vehicles, to improve the accuracy of detecting leaks and ensure observed measurement is integrated into the practices of the GDNs;
- baseline allowances and UMs to roll out the Digital Platform for Leakage Analytics (DPLA) which will improve shrinkage reporting and enable the GDNs to optimise their maintenance and repair operations to further reduce leakage;
- a new requirement for Cadent to run a collaborative DPLA rollout working group, ensuring it is rolled out consistently and with sufficient stakeholder and cross-GDN engagement;
- retaining a LO for the GDNs to maintain the Shrinkage and Leakage Model (SLM) while they transition to the DPLA;[5]
- a new 7- and 28-Day Repair Standards ODI-F, which will incentivise the timely repair of outstanding gas escapes to reduce the environmental impact and support asset management;
- the Annual Environmental Reports (AERs) will require the GDNs to report on modelled and observed shrinkage (once this data becomes available) and DPLA and ALD rollouts; and
- the Small Decarbonisation Projects (SDP) Re-opener[6] and Decarbonisation Project Development (DPD) UIOLI allowance[7] – which has been increased to address stakeholder concerns about the funding available for shrinkage reduction – will enable the GDNs to invest in additional ALD technologies, the DPLA, and other decarbonisation initiatives. Further details on these UMs are in Chapter 6 of the Overview Document.

[5] No further detail is provided in our Final Determinations, as this is part of an existing LO. Updates to the LO will be consulted on through our upcoming statutory consultation.
[6] Previously named the Net Zero Pre-Construction and Small Projects Re-opener.
[7] Previously named the Net Zero and Re-opener Development UIOLI.

3.7 These decisions demonstrate our commitment to reducing shrinkage throughout RIIO-GD3. By integrating observed measurement, strengthening reporting requirements and introducing an incentive for timely repairs, we are building a more robust and accountable framework. A successful and consistent roll out of the DPLA is also the critical enabler to effectively re-introduce a shrinkage incentive in RIIO-GD4.

Advanced Leakage Detection and the Digital Platform for Leakage Analytics

Purpose: To enable the GDNs to roll out ALD technologies and the DPLA.

Benefits: ALD will enable the GDNs to detect and repair leaks on their network at a faster rate and the DPLA will enable the GDNs to optimise their maintenance and repair operations.

Final Determinations summary

ALD Design	Final Determinations	Draft Determinations
Funding routes	Baseline allowances. DPD UIOLI and SDP Re-opener available if additional funding is needed.	Change – did not include in SDP Re-opener eligibility.
Baseline allowances	Cadent: £27.4m. NGN: £4.9m. SGN: £12.4m. WWU: £7.1m.	Same as FD.
Rollout expectations	We expect: • Cadent to survey its entire low pressure (LP) and medium pressure (MP) networks annually during years one to three of RIIO-GD3, with the option to adopt a more targeted approach in years four and five; and • NGN, SGN and WWU to survey their entire LP and MP networks at least once by the RIIO-GD4 business plan submissions.	N/A

DPLA Design	Final Determinations	Draft Determinations
Funding routes	Cadent: Baseline allowances. NGN, SGN, WWU: SDP Re-opener.	Same as FD.
Baseline allowances	Cadent: £5.1m.	Same as FD.
Rollout expectations	All GDNs to have rolled out a consistent version of the DPLA by the end of RIIO-GD3.	N/A.
Licence Obligation	Cadent only - requiring it to: • implement the DPLA in accordance with a direction issued by us in year three of RIIO-GD3; and • establish and maintain a DPLA working group.	Change – not proposed in our DDs

Final Determination rationale and Draft Determination responses

ALD funding routes and baseline allowances

3.8 We have decided to retain our Draft Determinations position to allow baseline allowance funding for all GDNs for ALD rollout, as set out in Table 3. ALD delivers a range of benefits to consumers and the environment, and collecting this data now is essential to prepare for RIIO-GD4. This will create consumer value by enabling us to design a robust, evidence-based shrinkage incentive for the next price control.

3.9 The funding amounts are the same as proposed in our Draft Determinations.

Table 3: GDN ALD funding for RIIO-GD3

GDN	ALD funding
Cadent	£27.4m
NGN	£4.9m
SGN	£12.4m
WWU	£7.1m

3.10 In our Draft Determinations, we asked the GDNs to provide further detail on their chosen technology providers and a detailed breakdown of their forecast ALD costs. Some GDNs were unable to provide finalised costs, citing ongoing tender negotiations, novel technologies and a developing regulatory landscape. We

accept this reasoning. All GDNs provided us with a breakdown of costs for their preferred options, along with frameworks for next steps and implementation.

3.11 If additional funding for ALD is required during RIIO-GD3 to support the rollout of the DPLA, GDNs can use either the DPD UIOLI or SDP Re-opener. This is a change from our Draft Determinations, where only DPD UIOLI funding was proposed. The change responds to feedback from NGN and SGN that additional ALD costs could exceed the DPD UIOLI's £2m project cap. We accept that these costs may exceed the DPD UIOLI parameters and do not want to disrupt the DPLA rollout. Therefore, we consider it is appropriate to also allow ALD funding requests through the SDP Re-opener. See Chapter 6 of the Overview Document for more information on the DPD UIOLI and the SDP Re-opener.

3.12 We have decided to reject a proposal by Cadent in its Draft Determinations response to increase its ALD funding request by £3.7m. Cadent submitted this request following a third-party assurance report that said it needed to enhance its sampling and measurement strategy for large above ground installations to comply with Oil and Gas Methane Partnership 2.0 requirements. However, we do not consider that this request was sufficiently justified for baseline allowance funding, as Cadent's original proposal was based on trials and best practice and enables it to survey its entire network at a lower cost. However, Cadent can use £2.5m (the increased project cap) of its DPD UIOLI allowance to fund a large part of this enhancement if it, and its stakeholders, consider this to be priority. The DPD UIOLI is a finite ringfenced allowance and we expect Cadent to prioritise its use of the allowance efficiently.

3.13 NGN outlined two potential delivery models for ALD, which it said could be funded through baseline allowances:

- In-house model: surveys conducted using NGN-owned vehicles equipped with third-party ALD technology. This was estimated to cost £4.9m, comprising £2.6m for technology provision, £0.2m for vehicle-related costs, and £2.1m for personnel. NGN anticipated no additional IT integration costs, as proprietary systems provided by the technology vendor would be used.
- Outsourced model: ALD service provided by a third-party. This model had an estimated cost of £4.6m, with all costs captured within the service contract, eliminating separate vehicle or personnel expenses.

3.14 We've decided to allow £4.9m funding for NGN, as proposed in our Draft Determinations. Owning the vehicles and technology gives NGN direct control over scheduling, deployment, and operational standards. This reduces

dependency on third-party availability and ensures compliance with HSE requirements under the IMRRP. Additionally, internal delivery will allow NGN to maintain clearer oversight of costs and performance, which can be harder to guarantee under a fully outsourced model.

ALD rollout expectations

3.15 Based on the funding allowed we expect:

- Cadent to survey the entirety of its LP and MP networks annually; or the entirety of its LP and MP networks in years one, two and three, with an equivalent more targeted workload, if appropriate, for years four and five; and
- NGN, SGN and WWU to survey the entirety of their LP and MP networks at least once by the time business plans are submitted for RIIO-GD4.

3.16 We consider it important for all GDNs to have surveyed their entire LP and MP networks at least once in RIIO-GD3 to inform our development of a Shrinkage ODI-F in RIIO-GD4. We expect that if a GDN has not completed this, it will not be eligible for a Shrinkage ODI-F in RIIO-GD4.

3.17 Cadent is rolling out annual ALD surveys to test whether this is value for money and required for an effective rollout of the DPLA. We expect that following years one and two of RIIO-GD3, it will assess the programme and target use of ALD in the remaining years of the price control period if appropriate. We expect Cadent to disseminate its learnings to the other GDNs to inform their future ALD and DPLA rollout plans.

3.18 Paragraphs 3.47-3.50 outline the AER reporting metrics we have introduced for ALD rollout.

DPLA funding routes and baseline allowances

3.19 We have decided to retain our Draft Determinations proposal to allow Cadent £5.1m of baseline funding to rollout the DPLA. This will enable Cadent to finalise development of the probabilistic modelling component of the DPLA (£3.1m) and ensure organisational IT readiness (£2m).

3.20 We have decided to allow NGN, SGN and WWU to access funding through the SDP Re-opener. All eight stakeholder responses were supportive or neutral on using the SDP Re-opener as the funding route, although SGN's ISG and an environmental group raised concerns about the time required for a re-opener application. Given ongoing cost uncertainty for the DPLA rollout for NGN, SGN

and WWU, we consider the SDP Re-opener, as a UM, to be the most appropriate route for submitting funding requests.

DPLA rollout expectations and Licence Obligation

3.21 We are introducing a new LO for Cadent, requiring it to implement the DPLA in accordance with a direction issued by us in year three of RIIO-GD3. This condition will ensure that the DPLA is rolled out consistently across all GDNs. As part of this LO, Cadent will be required to submit a cost-benefit analysis (CBA) on the probabilistic modelling component of the DPLA to us after its implementation in the second year of the price control. This analysis will help us to assess the value and impact of this portion of the DPLA and inform our decision as to whether the GDNs should rollout the full DPLA product, including observed measurement and probabilistic modelling, or the observed measurement component only.

3.22 Additionally, we will require Cadent to establish and maintain a DPLA working group (DPLAWG), with terms of reference to be published early next year. The DPLAWG will serve as a collaboration forum throughout the two-year Cadent rollout period. At the end of this period, the group will produce and submit a recommendation to us on whether to proceed with a full or partial rollout of the DPLA, based on its deliberations and findings, to help inform our decision.

3.23 The other GDNs will then be able to submit applications for DPLA funding via the SDP Re-opener in year three of RIIO-GD3. We will work with the GDNs to ensure they submit applications to implement the DPLA in the same way as stated in our direction to Cadent. We expect all GDNs to have rolled out a consistent version of the DPLA by the end of RIIO-GD3.

3.24 We have decided to introduce metrics for the DPLA rollout within AER, including a Cadent-specific AER metric to detail learnings from its rollout and a metric for other GDNs on how they're assimilating these learnings into their own rollout programmes. These new metrics are further discussed in paragraph 3.47.

7- and 28-Day Repair Standards ODI-F

Purpose: To incentivise the GDNs to meet common performance targets for completing outstanding gas repairs within 7 and 28 days.

Benefits: Repairing methane leaks in a timely manner will reduce the environmental impact of emissions and encourage efficient repairs work.

Final Determinations summary

Design	Final Determination	Draft Determination
ODI type	Financial – penalty only.	Same as FD.
Measurement	Number of outstanding gas escape repairs completed within 7 and 28 days.	Same as FD.
Target	Two minimum performance targets to complete 75% of outstanding repairs in 7 days, and 90% in 28 days.	Same as FD.
Incentive exposure	Penalty cap at the following percentages of Return on Regulated Equity (RoRE): • EoE: 0.27% • Lon: 0.26% • NW: 0.26% • WM: 0.26% • NGN: 0.26% • Sc: 0.27% • So: 0.25% • WWU: 0.27%	Change - updated the RoRE percentages to maintain equivalence with 0.5% of base revenue, in line with other ODI-Fs.
Incentive value	Penalty applied linearly below the minimum performance target, up to the penalty cap, split equally across the two metrics.	Same as FD.
Reporting	Annual reporting through Regulatory Reporting Packs (RRPs).	Same as FD.
Applied to	All GDNs.	Same as FD.

Final Determination rationale and Draft Determination responses

ODI type

3.25 We have decided to implement our Draft Determination proposal to introduce a penalty-only ODI-F for 7- and 28-Day Repair Standards. Financial penalties will apply if performance targets are not met for two equally weighted metrics: completing outstanding repairs within 7 days and 28 days.

3.26 NGN, WWU, and four other stakeholders supported our proposal, noting it aligns with consumer expectations of timely completion of repairs. However, Cadent and SGN opposed it, arguing that it could undermine safety prioritisation, incentivise inefficient delivery and fail to account for regional and operational constraints. We disagree. The targets are set at a level which have previously been achieved by

all networks and are therefore proven to be attainable in all regions without compromising safety or efficient delivery.

3.27 We consider that a penalty only ODI-F is appropriate as performance in this area has declined during RIIO-GD2. This incentive will help reduce methane leakage from the network and restore repair standards to previously achieved levels.

Measurement and target

3.28 We have decided to set two common, equally weighted minimum performance targets for all GDNs to complete:

- 75% of outstanding repairs in 7 days; and
- 90% of outstanding repairs in 28 days.

3.29 As proposed in our Draft Determinations, these performance targets have been set at the industry average based on GDN performance in the first four years of RIIO-GD2. Four stakeholders, including NGN and WWU, supported the targets, considering them reasonable. However, Cadent and SGN raised concerns that these targets could incentivise inefficient delivery and short-term fixes, as they said they do not fully consider regional and operational constraints.

3.30 We consider that common targets are appropriate to guarantee a minimum standard of service for consumers regardless of where they live. We have set the targets at a performance level that all GDNs have previously achieved both for 7-day target and 28-day target at least once during RIIO-GD2. We consider this approach is appropriate as it sets challenging yet achievable targets for the lowest-performing GDNs by aligning them more closely with the sector average.

Incentive exposure

3.31 We have decided to set the maximum exposure for this incentive at an average of 0.26% of RoRE. This percentage has been updated since our Draft Determinations to maintain equivalence with 0.5% of base revenue. This approach is consistent with other penalty-only ODI-Fs, such as the Complaints Metric ODI-F and Unplanned Interruptions ODI-F.

3.32 Cadent suggested reducing the exposure by 50% to align with RIIO-GD2 Shrinkage ODI-F, given the rationale for introducing this ODI-F relates to leakage and environmental concerns. However, we consider it appropriate to maintain alignment with other RIIO-GD3 ODI-Fs, as we consider this incentive delivers equivalent consumer benefits. While the incentive exposure is higher than for the

RIIO-GD2 Shrinkage ODI-F, that level reflected the specificity of that incentive, not the importance of reducing methane leakage across the sector.

Incentive value

3.33 We have decided to retain our Draft Determinations position that financial penalties will be applied on a linear basis for scores below the minimum performance target, up to the maximum penalty cap. Each metric is worth 50% of the overall penalty. The penalty caps for both metrics are one standard deviation from the RIIO-GD2 average industry score. See Table 4 for a summary of the penalty bands.

3.34 Two stakeholders agreed with our proposed incentive values in response to our Draft Determinations. We have therefore decided to implement these.

Table 4: 7- and 28-Day Repair Standards ODI-F penalty bands

	7 Day	**28 Day**
Minimum performance target	75%	90%
Maximum penalty cap	65%	84%

Environmental Action Plan and Annual Environment Report ODI-R

Purpose: To ensure GDNs have ambitious environmental commitments for RIIO-GD3 and report on their performance against these commitments annually.

Benefits: This will drive the GDNs to be ambitious in providing a more environmentally sustainable network which focuses on mitigating emissions, limiting impact on the natural environment, and ensuring energy efficiency.

Final Determinations summary

Design	**Final Determination**	**Draft Determination**
ODI type	Reputational.	Decided in our RIIO-3 Sector Specific Methodology Decision (SSMD).
Costs and commitments	Accept most of the GDNs' EAP costs, commitments and targets. We have proposed some modifications to align policy across the GDNs and/or other sectors, to suggest a different funding route, or due to a lack of evidence or clarity.	Same as FD.

Business Carbon Footprint	Accept the GDNs' methodology and updated BCF targets.	Change - rejected the GDNs' proposed BCF targets, asking them to resubmit using a consistent methodology.
Biodiversity and natural capital	Accept the GDNs' baseline requests, commitments and targets.	Same as FD.
Shrinkage	Accept the GDNs' shrinkage reduction targets. Require GDNs to report on both modelled and observed (once available) measures of shrinkage in their AERs.	Same as FD.
DPLA and ALD Reporting	Require GDNs to report on their rollouts of the DPLA and ALD.	Change - no reporting proposed in DD.
Regional Energy Strategic Plans (RESP) Reporting	Require GDNs to report on their RESP coordination and engagement activities within RIIO-GD3.	Change - no reporting proposed in DD.
Reporting	The network company will publish its AER on its website.	Decided in our SSMD.
Applied to	All GDNs.	Decided in our SSMD.
Associated document	Environmental Reporting Guidance.	N/A.

Final Determination rationale and Draft Determination responses

Costs and commitments

3.35 We have decided to accept most company EAP proposals, such as the BCF, shrinkage and biodiversity targets submitted by the GDNs. However, there remain some partial or full rejections of proposals which we have set out in the company annexes. These are to ensure alignment with policy across GD and other sectors, to suggest a different funding route or because there is a lack of evidence or lack of output clarity.

3.36 For accepted proposals, we have allowed GDNs' submitted costs in full, prior to regression benchmarking (see Chapter 5 for our approach to cost assessment).

Business Carbon Footprint

3.37 We have decided to approve the targets in Table 5 which were proposed by the GDNs in response to our Draft Determinations. In proposing these targets, the GDNs have now applied a more consistent methodology, including using a 2023/24 baseline and a location-based methodology.

Table 5: Scope 1 and Scope 2 BCF reduction targets (excluding shrinkage)

GDN	**BCF reduction target**
Cadent	-5%
NGN	-65%
SGN	-22%
WWU	-6%

3.38 We note the variance in the GDNs' targets. While the BCF methodologies are now more consistent, we understand that these variances are partly because some divergences persist due to historical assumptions, data and operating procedures. For example, WWU stated that by insourcing its mains replacement workforce, it effectively brought these from Scope 3 (as they had been contractor emissions) into Scope 1 emissions. Cadent also said that offsetting is not included in its target, whereas it might be for other GDNs. NGN noted that while its target was "highly ambitious" and "very challenging", this was driven by its stakeholders wanting it to maintain accountability and ambition. We accept these rationales and therefore consider the variance in targets to be acceptable. However, we want the GDNs to continue to work together to ensure their BCF methodologies are aligned ahead of RIIO-GD4.

3.39 We expect the GDNs to provide detailed commentary on their progress against these targets through the AERs.

Biodiversity and natural capital

3.40 We have decided to accept the biodiversity targets, proposed activities and costs outlined in the GDNs' business plans as they meet the guidelines of the biodiversity net gain (BNG) legislation.[8] We have also determined that the GDNs should work in partnership with biodiversity experts, charities, and consultants to ensure their AERs are informed by best practice and expert insight. All responses were either supportive or neutral on the proposal in our Draft Determinations to accept these targets.

Shrinkage

3.41 We have decided to accept the GDNs' submitted shrinkage reduction targets. We consider their forecasted shrinkage targets to be acceptable and to go sufficiently beyond their RIIO-GD2 ambitions, while remaining achievable. While these targets do not eliminate shrinkage entirely, they represent a meaningful

[8] Understanding biodiversity net gain - GOV.UK

contribution to carbon reduction objectives and demonstrate clear progress toward longer-term decarbonisation, consistent with the aims outlined in paragraphs 3.4-3.7.

GDN	**RIIO-GD3 shrinkage reductions proposals (%)**
Cadent	16
NGN	22
SGN	33
WWU	16

3.42 In some cases, the RIIO-GD3 shrinkage targets may appear less demanding than those set under RIIO-GD2. This is mainly because most GDNs have already implemented the most effective shrinkage reduction measures – such as pressure control and gas conditioning – during RIIO-GD2.

3.43 We received four responses that referred specifically to the proposal in our Draft Determinations to accept the shrinkage targets submitted by the GDNs. An environmental group welcomed our commitment to require networks to report measured emissions and to consider reinstating a financial incentive in RIIO-GD4, though it stated that this will need strong leadership given variations in company plans. It also urged us to actively monitor performance and review DPD UIOLI funding levels to prevent backsliding on methane reduction and ensure sufficient resources for new activities. We recognise the importance of accurate emissions reporting and agree that measured data will strengthen future incentive design. We have therefore increased the DPD UIOLI allowance which will ensure the GDNs have sufficient resources for methane reduction activities, alongside other decarbonisation activities, throughout RIIO-GD3. Further information on the DPD UIOLI is available in Chapter 6 of the Overview Document.

3.44 Cadent welcomed our acceptance of its shrinkage targets but noted that these are based on the SLM, which it said understates its ambition. Cadent stated that its plans to deploy ALD and the DPLA would deliver up to twice the leakage reduction estimated by the SLM, using observed data for more targeted interventions across RIIO-GD3. We welcome Cadent's ambition to exceed the SLM-based estimates and recognise the potential of ALD and DPLA to deliver enhanced leakage reduction. However, it is important that targets remain grounded in a consistent and transparent methodology to ensure comparability across networks.

3.45 Cadent's ISG stated that rejecting its Advanced Leakage Intervention Programme (ALIP) misses an opportunity for further methane reductions through targeted

pipe replacement informed by new detection technologies. We have decided to increase funding for Cadent's non-mandatory repex programme, following a resubmitted engineering justification paper (EJP) that contained more robust optioneering, with some additional volumes justified using ALIP to prevent Gas in Buildings (GIB), gas escapes and supply interruptions. Further information on our partial approval of Cadent's ALIP proposal can be found in the Non-Mandatory Repex section of the Cadent Annex.

3.46 SGN asserted that its shrinkage target was closely tied to other business plan activities such as repex, ALD, and its Intelligent Gas Grid, and that any major changes in these areas in our Final Determinations, or during RIIO-GD3, would require it to adjust the target accordingly. We acknowledge that the shrinkage target interacts with other business plan activities, however adjusting the target could undermine transparency and accountability, and UMs such as the SDP Re-opener and DPD UIOLI exist to provide flexibility for additional measures.

DPLA and ALD Reporting

3.47 We have decided to introduce the following metrics within the AERs to track the rollout of ALD and the DPLA:

- commentary on each network's progress in rolling out ALD technology (both to meet HSE requirements and beyond);
- the percentage of LP and MP networks that have been surveyed using ALD technology during the regulatory year;
- commentary on cross-GDN engagement on DPLA rollout to ensure consistency, calibration and continued sharing of insights;
- commentary on preparation for DPLA roll out (within years one and two for NGN, SGN and WWU);
- a Cadent-specific AER metric to capture learnings from its rollout of the DPLA; and
- a metric for NGN, SGN and WWU on how they're assimilating these learnings into their DPLA rollout programmes.

3.48 These reporting requirements have been introduced following concerns raised by an environmental group regarding the timing and consistency of the rollout of these technologies across the GDNs. It highlighted inconsistencies in the GDNs' plans for ALD, which it said risked leading to uneven performance across networks. It stressed that without clear standards, variations in ALD and DPLA rollout could undermine methane reduction goals. Overall, it urged us to set clear

expectations and ensure adequate funding to avoid delays and fragmented implementation of both ALD technologies and the DPLA.

3.49 We acknowledge the concerns raised. We consider the reporting requirements introduced in paragraph 3.47 provide a framework – alongside other outputs and mechanisms available for RIIO-GD3 – for both technologies to be rolled out in a timely and consistent manner.

3.50 Our decisions on DPLA and ALD rollout are discussed in more detail from paragraph 3.8.

Regional Energy Strategic Plan Reporting

3.51 We will require the GDNs to provide commentary in the AERs on work undertaken to inform the RESPs, including stakeholder engagement, modelling, and any other coordination activities undertaken to contribute to the process of RESP development.

3.52 We have introduced this requirement to the AER since our Draft Determinations as stakeholders emphasised that it is imperative for the GDNs to engage collaboratively with the National Energy System Operator (NESO) to contribute to the creation of the RESPs. We consider AER reporting on this will be beneficial to stakeholders, consumers and GDNs alike, because it will enhance transparency and accountability in this important area.

Regional Energy Strategic Plans

Final Determinations summary

Design	Final Determination	Draft Determination
Funding routes	Baseline allowances, DPD UIOLI and SDP Re-opener.	Same as FD.
Scope	Coordination and engagement activities.	Same as FD.
Reporting	AER and RRPs.	Change - no reporting requirements proposed.
Applied to	All GDNs.	Same as FD.

Final Determination rationale and Draft Determination responses

GDNs' roles and interactions with RESPs

3.53 We have separately consulted on a new LO for the GDNs, with a decision expected in early 2026.[9] This LO will require the GDNs to support the NESO in

[9] Regional Energy Strategic Plan: licence modifications and guidance document | Ofgem

developing the RESP, while the requirements for how the GDNs must use RESP outputs will be set out in the RIIO-GD4 Sector Specific Methodology Decision.

3.54 In January 2026, NESO will publish the transitional RESP (tRESP). The tRESP will be focused on Electricity Distribution (ED) and does not have direct implications for GDN planning. We outlined the scope of the tRESP in an open letter in February 2025.[10]

3.55 While the tRESP is not designed for GD planning, the GDNs may perceive it has implications for their investment plans. If the GDNs consider changes are justified based on the tRESP, these would need to be submitted and assessed through UMs such as the DPD UIOLI, the SDP Re-opener or the Decarbonisation and Environmental Policy (DEP) Re-opener (see Chapter 6 of the Overview Document for more detail on these UMs).

3.56 The full RESPs will be published later in RIIO-GD3, with the intention for these plans to inform RIIO-GD4 planning. However, if the GDNs consider in-period changes are required to their RIIO-GD3 investment plans based on the RESPs, these would also need to be submitted and assessed through the same UMs.

Funding routes

3.57 We have decided to retain our Draft Determinations position to enable RESP coordination and engagement activities to be funded through the SDP Re-opener and the DPD UIOLI. We have also decided to allow baseline allowances for specific projects with cost certainty (outlined below).

3.58 We received eight responses to our Draft Determinations on this topic, which were broadly supportive of the funding routes we proposed and with the scope provided. All GDNs called for flexible and timely funding, although one consumer group stated that it considered any additional funding beyond what we proposed to allow through baseline allowances to be unnecessary. NESO called for the GDNs to be well resourced while ensuring they do not duplicate its activities.

3.59 Cadent proposed that RESP coordination and engagement should only be funded via baseline allowances and the DPD UIOLI, due to its criticality and the readily available nature of the DPD UIOLI. However, we consider keeping the SDP Re-opener open as a potential funding route remains appropriate in case the GDNs require additional funding above the £2.5m maximum spend per project for the DPD UIOLI.

[10] Open Letter - Scope of Transitional Regional Energy Strategic Plan | Ofgem

3.60 In line with our Draft Determinations position, NGN's RESP Coordination and Engagement proposal (£2m) can be funded via its DPD UIOLI.

3.61 We have also decided to allow baseline allowances for the below RESP-related proposals that we proposed to reject in our Draft Determinations:

- Cadent's Unified Asset Investment Portfolio;
- SGN's Whole System Approach;
- WWU's Improve Energy System Planning; and
- parts of Cadent's Net Zero Transition Planning (more information on this decision is available in the Cadent Annex).

3.62 These proposals were rejected in our Draft Determinations as it was unclear how they were not duplicative of NESO's work on developing the RESPs, or we did not consider they provided value for money. However, the GDNs have provided further evidence on the need for these projects within their responses, and we are satisfied that they are not duplicative of NESO's RESP activities.

3.63 Ahead of NESO's publication of the RESPs, and in line with their licence obligations, we expect the GDNs to actively coordinate with NESO and engage fully in the RESP development process. This includes, but is not limited to, attending and contributing to regional boards and national/regional working groups, undertaking gas network analysis, and providing data to support NESO's development of RESP outputs.

Scope

3.64 The scope of the DPD UIOLI and SDP Re-opener mechanisms includes coordination and engagement activities with stakeholders for the development of any net zero-related strategic planning. Please refer to Chapter 6 of the Overview Document for further details.

Reporting

3.65 We will require two parallel modes of reporting to gather information on the GDNs. As set out in paragraph 3.51, we will require the GDNs to provide commentary through the AERs. Please refer to the EAP and AER section for further details on this reporting requirement. We will also require them to report through the RRPs on costs relating to RESP.

3.66 We did not consult on these reporting requirements and therefore did not receive any stakeholder feedback on the matter. However, we consider reporting on the

GDNs' RESP progress and specific investments necessary for transparency and essential to inform future policymaking in this important area.

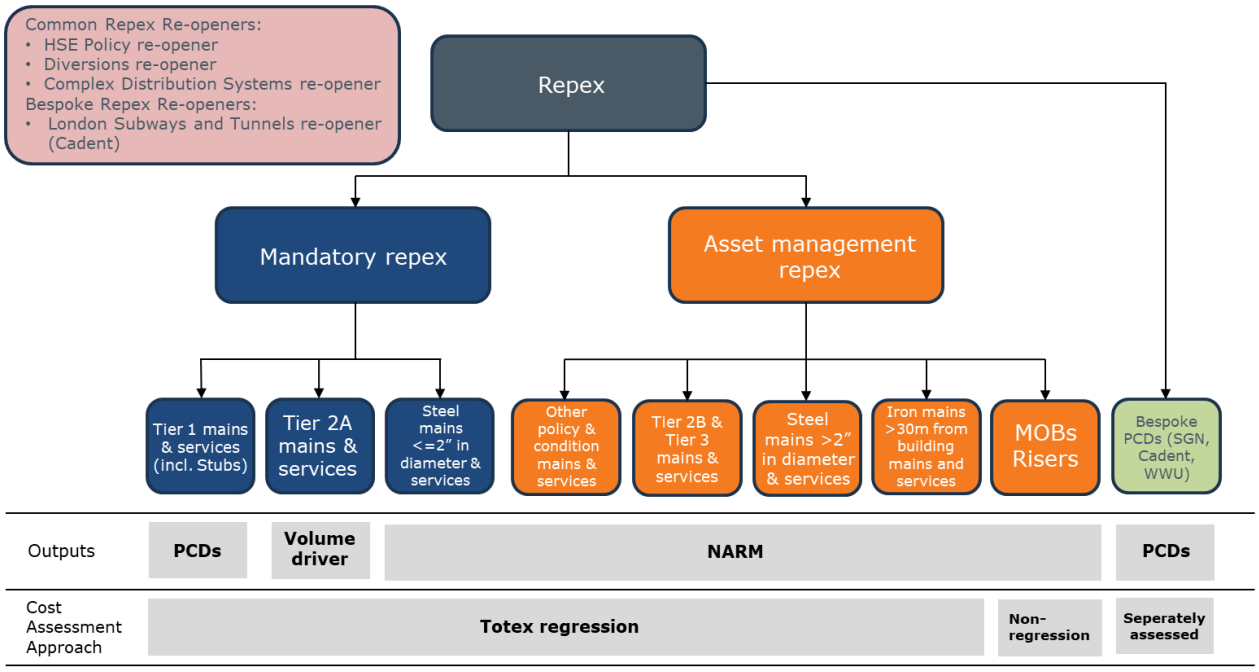
Secure and resilient supplies

Repex

3.67 Repex refers to the long-term programme to replace old and deteriorating mains, services and risers. In practice, this typically means replacing old metallic mains and services with new PE ones, resulting in a gradually increasing share of the network made of plastic. Beyond improving health and safety, repex provides significant environmental and operational benefits by reducing methane leakage from the network.

3.68 We have designed a suite of outputs and UMs to support the continued delivery of this large and complex programme in RIIO-GD3. Figure 2 summarises our approach to outputs and cost assessment for repex in RIIO-GD3.

Figure 2: Overview of our approach to repex in RIIO-GD3



3.69 HSE requirements are the primary driver of repex. The HSE's current IMRRP enforcement policy requires the GDNs to manage the safety risk of iron mains that are within 30 metres of a building.[11] Depending on their size, these iron

[11] HSE, Iron Mains Risk Reduction: https://www.hse.gov.uk/gas/supply/mainsreplacement/index.htm

mains must be managed either through decommissioning, remediation or condition monitoring.[12] [13] Specifically:

- Tier 1 Mains, those less than or equal to 8 inches in diameter, must be decommissioned by the end of 2032 or earlier.
- Tier 2A Mains, those greater than 8 inches and less than 18 inches in diameter, which are above a risk-action threshold,[14] must be decommissioned or remediated over the period of the GDN's Approved Programme.[15]
- Tier 2B Mains, those greater than 8 inches and less than 18 inches in diameter, which are below a risk-action threshold, are subject to condition monitoring. Decommissioning can be funded if supported by CBA.
- Tier 3 Mains, those equal to or greater than 18 inches in diameter, are subject to condition monitoring. Decommissioning can be funded if supported by CBA.

3.70 Non-compliant services associated with a particular main are replaced at the same time as the main.

3.71 Of the submitted costs for RIIO-GD3, 71% of repex spend is driven by HSE's IMRRP mandatory replacement: Tier 1 Mains, Services and Iron Stubs; and Tier 2A Mains and Services.

Mandatory Repex

3.72 In line with the HSE's IMRRP enforcement policy we expect:

- all Tier 1 mains, services and stubs to be decommissioned by the end of 2032 or earlier; and
- each GDN to continue decommissioning Tier 2 mains which are above a risk-action threshold (Tier 2A mains) in line with its HSE Approved Programmes.

3.73 We also consider the replacement of non-polyethylene (non-PE) services, steel pipes less than or equal to 2 inches in diameter and medium pressure ductile iron mains to be mandatory.

[12] For larger diameter mains, it may be possible for GDNs to undertake remediation action (ie internally sealing pipe joints) that prolongs the operating life of a pipe over the medium term (ie 10-20 years). Typically, these remediation actions are less costly than full replacement but offer shorter operating lives.
[13] Tier 2 pipes scoring below a risk-action threshold and Tier 3 pipes are subject to condition monitoring. Where pipes are found not to be in an efficient state, in efficient working order and in good repair, the GDN should act to remedy this.
[14] The risk-action threshold is agreed between HSE and each GDN individually. The Tier 2A Mains and Services Replacement Volume Driver section in Chapter 4 contains more information on this.
[15] A GDN's Approved Programme is the agreed plan between the GDN and the HSE which details the measures and processes for managing risks related to iron mains.

3.74 We will continue to fund the GDNs' mandatory repex programmes, while ensuring that costs are efficient. Please see the sections below on Tier 1 Mains Decommissioned PCD, Tier 1 Services PCD, and Tier 1 Iron Stubs PCD, and the section on the Tier 2A Mains and Services Replacement Volume Driver in Chapter 4 for more information on the mechanisms we are using to fund this workload in RIIO-GD3, along with a summary of the allowances and workloads. For more detailed information on the allowances and workloads for each GDN, please see the company annexes.

Non-mandatory repex

3.75 The HSE also requires the GDNs to manage the risk of their assets that are not included within the mandatory repex programme. Therefore, the remaining repex spend is for asset management activities. This includes replacement of Tier 2B and Tier 3 mains and services, as well as the replacement of risers[16] and mains made of other materials as required. Non-mandatory repex is funded through NARM and is justified through Cost Benefit Analysis (CBA), which considers safety, operational and environmental benefits.[17] Where non-mandatory repex is not justified through CBA, the GDNs can alternatively use repair techniques to manage the risk associated with these assets.

3.76 We assess the level of non-mandatory repex spend with these objectives in mind:

- to ensure we are funding the GDNs to meet their statutory and licence obligations to maintain a safe network; and
- to ensure all repex investment is justified and efficient in the context of future gas network usage uncertainty.

3.77 Our overall assessment of non-mandatory workloads follows a three-step process:

- Stage 1 - Engineering assessment: reviewing the needs-case, optioneering and cost breakdowns.
- Stage 2 - CBA: workloads which pass Stage 1 must also pass a CBA assessment which measures the costs to consumers against the benefits delivered. As part of this step, we have carefully considered, and decided, what CBA payback cut-off period to apply to non-mandatory repex investments.

[16] Our Final Determinations decisions on the funding of risers on Multiple Occupancy Buildings (MOBs) is discussed in more detail in paragraphs 5.367 - 5.376
[17] Please see the individual company annexes for our decisions on NARM.

- Stage 3 - Cost assessment: workloads which pass Stage 2 are subject to comparative benchmarking assessment (see Chapter 5 of the company annexes for further detail).

CBA payback cut-off for non-mandatory repex

3.78 We have decided to retain our Draft Determinations proposal to reduce the CBA payback cut-off period from 16 years (as used in RIIO-GD2) to 11 years for Stage 2 of the assessment process.

3.79 All four GDNs opposed this approach, with two ISGs also expressing concern. Their main arguments against our approach were:

a. an 11-year cut off period was unjustified given the network will still be in use beyond 2037;

b. a reduction in workloads risks disallowing repex required for safety; and

c. not funding repex in RIIO-GD3 may lead to both increased opex costs for remediation now and higher future costs for consumers if replacement is still needed.

3.80 NGN was particularly concerned about the proposed disallowance of its Tier 3 workload. WWU proposed a 2050 cut-off for CBAs. It stated its intention to use its non-mandatory repex allowance to respond to additional work identified through ALD during RIIO-GD3, arguing that any reduction to this allowance will limit its ability to do so. In contrast, a consumer group supported our approach, saying that we need to ensure consumers don't pay for assets which fail to deliver benefits within a reasonable timeframe.

3.81 We continue to consider the 11-year payback cut-off period is appropriate. It ensures the GDNs' asset management programmes must demonstrate cumulative benefits that exceed billed costs by 2037, which is consistent with the cut-off date used in RIIO-GD1 and in RIIO-GD2. This strikes a balance between investment, repair and refurbishment given the longer-term uncertainty for the future of gas in the energy transition.

3.82 In response to point (a), while we agree that the gas network is expected to remain in use beyond 2037, the scale of usage in the 2040s and beyond remains uncertain. As outlined in Chapter 2, we expect government to provide greater clarity during RIIO-GD3 on the future of the gas system through its upcoming programme reviewing this area.[18] In particular, the outcomes of its planned 2026

[18] Midstream gas system: update to the market - GOV.UK

call for evidence on the operational transition of the gas system, and upcoming decisions on hydrogen heating and the rollout of hydrogen blending. Until then we consider a conservative approach to investment is justified in RIIO-GD3. The continued use of the 2037 cut-off remains appropriate; it aligns with the RIIO-GD2 approach and provides an additional ten-year window to understand any implications arising from government's upcoming programme and decisions. We also note the disallowed Tier 3 workloads from WWU are not expected to pay back until 2051, and Tier 2 by 2047 earliest, further increasing uncertainty around the value of these investments. We will review our approach to assessing repex CBAs when setting RIIO-GD4 to ensure it reflects the latest view of the future role of gas networks.

3.83 We do not accept points (b) and point (c). The GDNs were required to submit information on the opex savings to 2050 of their proposed repex investment. In most cases, opex costs were significantly lower. For NGN the costs were largely aligned. Given long-term uncertainty over future network use, we consider it reasonable for alternative opex solutions to be utilised for repair and refurbishment. We have therefore allowed a proportionate opex uplift where repex workloads have been disallowed. Combining this additional opex funding with the GDNs' ability to reprioritise the remaining non-mandatory repex allowances towards the highest risk assets under the NARM framework will enable the GDNs to continue to maintain the safety of their networks.

3.84 This decision is consistent with our expectation that the GDNs have a strong focus on completing the delivery of the IMRRP by, or ahead of, the 2032 deadline.

3.85 Applying the 11-year cut-off period disallows NGN’s Tier 3 workload, WWU's Tier 2B and Tier 3 workloads, and SGNs ‘Other Policy and Condition’ workload.

3.86 In our Draft Determinations, we proposed to disallow SGN's ‘Other Policy and Condition’ workload through CBA assessment. Between Draft Determinations and Final Determinations, SGN submitted further information highlighting that some workloads considered mandatory had been disallowed. On further engineering review, we agree these workloads are mandatory and have reinstated them in our Final Determinations. As such we have reinstated the specific workloads and costs for:

- PVC pipes which must be replaced by 2032;
- Medium Pressure Ductile Iron (MPDI) which is mandatory to replace within 12 months; and

- consequential PE pipes which are replaced where it is more economical to do so.

Repex beyond RIIO-GD3

3.87 The mandatory IMRRP programme will reach its conclusion by the end of 2032 or earlier, within the first few years of the next price control. This will result in a large reduction in both spending and workload for all GDNs, fundamentally changing the look of the GDNs' operations.

3.88 As we move towards the end of the mandatory repex programme, we want to work closely with the HSE and the GDNs during RIIO-GD3 to develop a coordinated approach to asset management and repex in the next price control and beyond. We will review the repex programme as whole, making sure that the approach for the next price control is evidence-based and balances asset resilience, safety, and consumer value.

3.89 We expect the approach to asset management and repex in the next price control to include:

- a consistent approach to condition monitoring using ALD and DPLA technologies across GDNs, including sharing learning and best practice;
- a consistent methodology for identifying and prioritising the highest risk pipes that require remediation, informed using ALD and DPLA, moving beyond the current position for Tier 2A mains where each of the GDNs uses its own methodology;
- a consistent approach to non-mandatory workload, including the modelling and data used for CBA; and
- a move towards more repair and refurbishment of mains, where safe and cost effective to do so, including by using technology such as robotic interventions.[19]

Tier 1 Mains Decommissioned PCD

Purpose: To fund Tier 1 iron mains decommissioning and replacement activities.

[19] In paragraph 5.486 we have outlined how we are asking Cadent and the other GDNs to undertake enhanced reporting of robotic intervention in RIIO-GD3 to ensure this option is well understood leading into the next price control.

Benefits: The PCD provides the GDNs with flexibility to manage the Tier 1 repex programme efficiently, whilst making sure that consumers only pay for the workloads that are delivered.

Final Determinations summary

Design	Final Determination	Draft Determination
PCD type	Mechanistic.	Decided in our SSMD.
Output to be delivered	Measure: Baseline and Outturn Workloads and Baseline and Outturn Workload Mix based on km of Tier 1 mains decommissioned. The measure is set using four Workload Activities.[20] Target: Network specific Baseline Target Workload (see summary table below).	Decided in our SSMD.
Delivery date	31 March 2031.	Same as FD.
Allowance Adjustment Mechanism	No upwards cap on the Allowance Adjustment Mechanism.	Change - upwards Allowance Adjustment Mechanism with a 3% cap.
Allowance and unit costs	Baseline allowance covering all RIIO-GD3 years (see summary table below). Ex ante unit costs derived from top-down allowances for each Workload Activity (see company annexes).	Same as FD.
Reporting	Annual reporting through the RRPs.	Same as FD.
Applied to	All GDNs.	Decided in our SSMD.

Final Determination rationale and Draft Determination responses

Allowance Adjustment Mechanism

3.90 We have decided to remove the cap on the upwards Allowance Adjustment Mechanism for this PCD. This is a change from our Draft Determinations position.

3.91 Three respondents to our Draft Determinations supported retaining this PCD, but all GDNs recommended either increasing the upwards adjustment cap or removing it entirely. They said this would provide greater flexibility to plan their Tier 1 workloads for RIIO-GD3, potentially enabling over-delivery against their

[20] The four workload activities relate to four categories of diameter band of decommissioned pipe: ≤3", 4" - 5", 6" - 7", and 8".

forecast workloads to ensure completion of the programme ahead of the 2032 deadline.

3.92 In our Draft Determinations we noted that three of the GDNs were forecasting to fall well below the 3% cap, so we did not think that an increase was required. SGN said that this was likely due to the financial penalty of exceeding the cap; GDNs are incentivised to manage workloads to avoid exposure to this additional cost. We have considered this reasoning and agree with it.

3.93 Due to the proximity of the 2032 IMRRP deadline, we agree with the GDNs that removing the upwards adjustment cap could lead to a more efficient overall programme of Tier 1 work. We also agree that it is low risk for consumers, as it is unlikely to lead to significant additional cost being passed onto bills. Removing the cap allows companies to optimise delivery without being constrained by an artificial ceiling.

Allowance and unit costs

3.94 Ex ante unit costs are set for each activity type, for each GDN. For more information on the network specific unit costs, please see the company annexes.

3.95 The total baseline value is set through the totex modelling process. Table 6 below summarises the baseline target workload and total baseline value for each GDN.

Table 6: Tier 1 Mains Decommissioned baseline target workloads (km) and Total baseline value (£m) across all years of the price control, for each GDN.

Network	**Baseline Target Workload (km)**	**Total Baseline Value across all years of the price control (£m)**
Cadent EoE	2,723	489.1
Cadent Lon	1,684	448.1
Cadent NW	1,874	352.5
Cadent WM	1,491	292.1
NGN	2,187	464.4
SGN Scotland	1,075	177.9
SGN Southern	3,200	718.2
Wales and West	1,675	366.6

Tier 1 Services PCD

Purpose: To fund service interventions associated with Tier 1 mains decommissioning activities.

Benefits: The PCD provides the GDNs with flexibility to manage the Tier 1 repex programme efficiently, whilst making sure that consumers only pay for the workloads that are delivered.

Final Determinations summary

Design	Final Determination	Draft Determination
PCD type	Mechanistic.	Decided in our SSMD.
Output to be delivered	Measure: Baseline and Outturn Workloads and Baseline and Outturn Workload Mix based on number of Tier 1 service interventions. The measure is set using two Workload Activities.[21] Target: Network specific Baseline Target Workload.	Decided in our SSMD.
Delivery date	31 March 2031.	Same as FD.
Allowance Adjustment Mechanism	No upwards cap on the allowance adjustment mechanism.	Change - upwards Allowance Adjustment Mechanism with a 5% cap.
Allowance and unit costs	Baseline Cost Allowances covering all RIIO-GD3 years (see summary table below). Ex ante unit costs derived from top-down allowances for each Workload Activity (see company annexes).	Same as FD.
Reporting	Annual reporting in the RRP.	Same as FD.
Applied to	All GDNs.	Decided in our SSMD.

Final Determination rationale and Draft Determination responses

PCD type

3.96 We have decided to retain this mechanism as a PCD. Two respondents to the Draft Determinations supported retaining this PCD, but Cadent suggested that a volume driver would be preferable. We think that a PCD remains appropriate as it

[21] The two workload activities relate to types of service interventions: Relay, and Test & Transfer.

retains the Baseline Workload and ex ante allowance for a delivery target. The ability to adjust the allowances upwards or downwards ensures the GDNs are only funded for workload delivered.

Allowance Adjustment Mechanism

3.97 We have decided to remove the cap on the upwards Allowance Adjustment Mechanism for this PCD. This is a change from our Draft Determinations position.

3.98 Three GDNs responded to our Draft Determinations recommending either increasing the upwards adjustment cap or removing it entirely. They said this would provide greater flexibility to plan their Tier 1 services workloads for RIIO-GD3, potentially enabling over-delivery against their forecast workloads to ensure completion of the programme ahead of the 2032 deadline.

3.99 Due to the proximity of the 2032 IMRRP deadline, and that services numbers are uncertain and driven by the mains workload, we agree with the GDNs that removing the cap could lead to a more efficient programme of Tier 1 services work. We also think that it is low risk for consumers, as it is unlikely to lead to significant additional cost being passed onto bills. Removing the cap allows companies to optimise delivery without being constrained by an artificial ceiling.

Allowance and unit costs

3.100 Ex ante unit costs are set for each activity type, for each GDN. For more information on the network specific unit costs, see the company annexes.

3.101 The total baseline value is set through the totex modelling process. Table 7 below summarises the baseline target workload and total baseline value for each GDN.

Table 7: Tier 1 Services baseline target workload (number of interventions) and Total baseline value (£m) across all years of the price control, for each GDN.

Network	**Baseline Target Workload (no. interventions)**	**Total Baseline Value across all years of the price control (£m)**
Cadent EoE	227,686	255.0
Cadent Lon	166,687	227.7
Cadent NW	143,874	127.6
Cadent WM	127,433	126.7
NGN	158,893	96.9
SGN Scotland	76,325	59.5
SGN Southern	262,400	209.5

Network	Baseline Target Workload (no. interventions)	Total Baseline Value across all years of the price control (£m)
Wales and West	122,984	125.2

Tier 1 Iron Stubs PCD

Purpose: To fund Tier 1 iron stubs work.

Benefits: The PCD allows funding for GDNs to deliver Tier 1 iron stubs activities, whilst making sure that consumers only pay for the workloads that are delivered.

Final Determinations summary

Design	Final Determination	Draft Determination
PCD type	Mechanistic.	Same as FD.
Output to be delivered	Each GDN will have a target workload of Tier 1 Iron Stubs to complete in RIIO-GD3, split into: • a workload of stubs to be decommissioned; and • a workload of stubs not found/stubs left in situ based on the GDNs' estimates.	Change - now split into two workloads.
Delivery date	31st March 2031.	Same as FD.
Allowance Adjustment Mechanism	Unlimited upwards adjustment on stubs decommissioned.	Change – no upwards Allowance Adjustment Mechanism.
Allowance and unit costs	Two unit costs: one for stubs decommissioned, and one for stubs not found/stubs left in situ.	Change - no unit costs set at DD.
Reporting	Annual reporting through the RRPs.	Same as FD.
Applied to	All GDNs.	Same as FD.

Final Determination rationale and Draft Determination responses

PCD type, output to be delivered and delivery date

3.102 We have decided to retain our Draft Determinations proposal to introduce this mechanistic PCD. The GDNs will be funded to deliver a target workload of Tier 1 Iron Stubs by the end of the price control. This encompasses delivering both a workload of stubs decommissioned, and a workload of stubs left in situ/stubs not found.

3.103 In their responses to our Draft Determinations, three GDNs and one other stakeholder supported funding Tier 1 Stubs using a PCD, subject to determining appropriate unit costs. Cadent advocated for a volume driver to fund this workload, however it suggested a PCD could work if multiple unit costs and an upwards Allowance Adjustment Mechanism are introduced.

3.104 We have decided that a PCD is the appropriate mechanism to fund this workload, using two separate unit costs and an upwards Allowance Adjustment Mechanism.

Allowance Adjustment Mechanism

3.105 We have decided to introduce an upwards Allowance Adjustment Mechanism for the 'Tier 1 Stubs Decommissioned' workload, but not for the 'Tier 1 Stubs Investigated But Not Decommissioned' workload.

3.106 In their responses to Draft Determinations, WWU and Cadent suggested either having a small upwards adjustment mechanism or removing the 'cap' on over delivery. This would mean that GDNs could over deliver on their target workloads and still receive funding.

3.107 Given that GDNs need to decommission all Tier 1 Iron Stubs by the 2032 IMRRP deadline, and there is some uncertainty in terms of location and number of stubs, we have decided to remove the cap on over delivery of Tier 1 Stubs Decommissioned to provide some flexibility in the delivery of this workload. This means that the allowance will be adjusted to reflect the actual number of stubs decommissioned, with no limit on the number the GDNs can deliver.

3.108 This aligns with the RIIO-GD3 approach to upwards adjustment on the Tier 1 mains and services workloads, and provides flexibility in delivery of the stubs workload, meaning the GDNs can plan their programmes to be more efficient.

3.109 As set out in our Draft Determinations, we are concerned about the high number of 'stubs not found' forecast for some GDNs. Whilst we think that an allowance should go towards this workload, at a lower unit cost than for a decommissioning intervention, we do not think that the GDNs should be funded for delivering more 'Tier 1 Stubs Investigated But Not Decommissioned' than forecasted. Instead, we hope that having a 'cap' on this workload will incentivise the GDNs to more accurately identify stubs through effective desk-based processes to avoid incurring unnecessary costs.

Allowance and unit costs

3.110 We have decided to set two separate unit costs for this workload: one for stubs decommissioned, and one for stubs not found and stubs left in situ. In our Draft

Determinations, we noted that there were large cost variances between GDNs and requested further information to inform how we would set the unit costs.

3.111 In response to our Draft Determinations, all four GDNs raised concerns about setting efficient unit costs. SGN said that unit rates should reflect network specific approaches; NGN called for consistent definitions and categorisation of intervention types, and benchmarking across GDNs; Cadent proposed unit costs for specific outcomes; and WWU emphasised the need for efficient unit costs. We agree that for there to be efficient unit costs they will need to reflect consistent definitions of the categories of workload. We have therefore decided to create a dual unit cost approach.

3.112 NGN and WWU forecast a large number of instances of 'stub not found' - where a stub is identified in desk-based processes, but onsite digging doesn't find it. During RIIO-GD2, for NGN, over 80% of stubs identified were 'not found' when investigated on site. Additionally, Cadent has an established practice of evaluating a stub in situ, and if the stub passes certain criteria in line with HSE expectations it leaves the stub in situ. This results in similar costs to when the stub is 'not found', both of which are lower than the cost of decommissioning a stub.

3.113 It is therefore inefficient to set one unit cost for all stubs interventions. Specifically, the two categories of unit costs are:

- **Tier 1 Stubs Decommissioned** - Tier 1 stubs which have been physically removed or made safe by one of the following replacement designs:

  (1) insertion;

  (2) replacement by open cut;

  (3) remote foam bagging;

  (4) parent main cut-out; or

  (5) other approved replacement design.

- **Tier 1 Stubs Investigated But Not Decommissioned** - instances where a Tier 1 stub has either:

  (1) been identified in off-site processes, but upon on-site investigation (e.g. digging) has not been found, or

(2) has been found on-site, but has been determined to be suitable, in alignment with HSE criteria, to be left in-situ.[22]

3.114 Using information both submitted by the GDNs, and through other engagement, we have now set unit costs for this workload. Table 8 shows a summary of the workloads and unit costs for Tier 1 Iron Stubs. For more information, see the company annexes.

Table 8: Unit costs (£) and total workloads (no. interventions) for Tier 1 Stubs Decommissioned and Tier 1 Stubs Investigated But Not Decommissioned per GDN for the whole price control.

GDN	**Tier 1 Stubs Decommissioned Unit Cost (£)**	**Tier 1 Stubs Decommissioned Workload (no. interventions)**	**Tier 1 Stubs Investigated but not decommissioned Unit Cost (£)**	**Tier 1 Stubs Investigated but not decommissioned Workload (no. interventions)**
Cadent EoE	[REDACTION]	686	[REDACTION]	1,003
Cadent Lon	[REDACTION]	808	[REDACTION]	1,062
Cadent NW	[REDACTION]	941	[REDACTION]	1,434
Cadent WM	[REDACTION]	1138	[REDACTION]	1,783
NGN	[REDACTION]	159	[REDACTION]	1,215
SGN Scotland	[REDACTION]	160	[REDACTION]	27
SGN Southern	[REDACTION]	533	[REDACTION]	90
Wales and West	[REDACTION]	1527	[REDACTION]	1,055

Reporting

3.115 The GDNs will be required to report annually through the RRPs. We intend to update the reporting table to include a line for 'stubs left in situ' allowing us to more closely monitor interventions of this type.

[22] This would include any process, such as wrapping, which provides physical protection to the existing stub, before leaving in situ and backfilling.

Emergency Response Time Licence Obligation (ERTLO)

Purpose: To ensure that the GDNs respond appropriately to gas escapes to maintain safety, including by meeting performance thresholds and proactively addressing consumer vulnerability in both emergency response and call handling.

Benefits: Ensures public safety during unplanned gas escapes.

Final Determinations summary

Design	Final Determination	Draft Determination
Licence requirements retained from RIIO-2	GDNs must respond to 97% of reported gas escapes within one hour for uncontrolled gas escapes and two hours for controlled escapes (the ERT performance thresholds). Those attending gas escapes must have sufficient training to deal with the situation competently and appropriately.	Same as FD.
New licence requirements for RIIO-GD3	The GDN must: • not retrospectively reclassify gas escapes from 'uncontrolled' to 'controlled' after initial classification by the NGES; • record detailed identification of individual gas escapes exceeding the ERT performance thresholds, and provide this to us in a timely manner on request; • submit an annual summary of delivery challenges, emerging trends, and mitigation actions; and • account for consumer vulnerability in response to gas escapes. The NGES should proactively identify consumers in vulnerable situations.	Change - proactive reporting of each instance exceeding the ERT performance thresholds, instead of upon request.

Design	Final Determination	Draft Determination
Reporting	Annual reporting through the RRPs.	Same as FD.
Applied to	All GDNs.	Same as FD.

Final Determination rationale and Draft Determination responses

New licence requirements for RIIO-GD3

Prevent retrospective downward reclassification of gas escapes

3.116 We have decided to implement our Draft Determinations proposal to prevent GDNs from retrospectively reclassifying gas escapes from 'uncontrolled' to 'controlled' after the initial classification by the NGES.

3.117 Three GDNs and one consumer group supported this change, which they considered proportionate and necessary to enhance public safety and improve the accuracy and integrity of ERT performance reporting.

3.118 However, Cadent stated that reclassification helps prioritise the most 'at-risk' jobs during busy periods, noting it affected only 0.005% of uncontrolled gas escapes and emergencies across all its networks in 2024/25. It considered our proposal to be disproportionate to the risk and said it will have minimal impact on the GDNs' response to emergencies.

3.119 However, we are concerned that some customers may struggle to assess or communicate the severity of a gas escape or could take unnecessary risks which pose a danger to themselves or others. It may also lead to perceived pressure to minimise their concerns. Furthermore, downward reclassification could undermine the consistency and integrity of ERTLO reporting. Therefore, we have decided to update the licence to prevent the downward reclassification of gas escapes.

Detailed identification of gas escapes which exceed target times

3.120 We have decided to require the GDNs to record a consistent and comparable detailed identification of each individual gas escape event that exceeds the 1- and 2-hour ERT performance thresholds. The GDNs must provide this information to us in a timely manner upon request, as well as submit an annual summary of delivery challenges, emerging trends, and actions taken to mitigate the identified issues.

3.121 This is a change from our Draft Determinations, where we proposed that the GDNs submit detailed identification reports for each instance exceeding the ERT performance thresholds. In response, two GDNs raised concerns about the

proportionality and purpose of this requirement. One suggested that it could lead to unintended consequences, such as reduced productivity and increased ERTLO failures. The GDNs also asked for clarity on what constitutes "detailed identification".

3.122 We consider that requiring GDNs to record detailed information on each gas escape event that exceeds the performance thresholds – using a consistent and comparable format – will help identify root causes and emerging trends. This approach will facilitate improved learning across the sector and enable us to investigate potential breaches of the ERTLO more efficiently. However, we accept that requiring the GDNs to regularly submit this data to us would be disproportionate, especially as we are introducing the Emergency Response Time ODI-R. Therefore, GDNs will only be required to submit this information on request and provide an annual high-level summary. This will ensure we have sufficient oversight of emergency response performance.

3.123 We will provide further guidance on the requirements for detailed identification in the Regulatory Instructions and Guidance (RIGs).

Identify and account for consumers in vulnerable situations

3.124 We have decided to introduce a licence requirement for the NGES to take all reasonable steps to proactively identify consumers in vulnerable situations, including those on the Priority Services Register (PSR), and for the GDNs to take all reasonable steps to account for vulnerability when responding to gas escapes. We consider this decision is in line with the GDNs' existing LO to treat domestic customers fairly.[23]

3.125 Cadent opposed our Draft Determinations proposal, stating that the priority during an emergency must be to dispatch an engineer to investigate and prevent the gas escape as soon as possible. It said that the GDNs already have to identify and support consumers in vulnerable situations during their response, and that requiring proactive identification of vulnerability during an emergency call could both delay attendance at the emergency and delay the call handler from taking the next call. NGN and SGN both said there is a need for further discussion, with NGN highlighting data sharing challenges associated with accessing the Meter Point Reference Number (MPRNs) to identify vulnerable consumers on Independent Gas Transporter (IGT) networks.

[23] Standard Special Condition D21.

3.126 Following working group discussions, we understand that the GDNs already provide training for Emergency Call Handlers and engineers to enable them to identify and respond to consumer vulnerability.[24]

3.127 Given the GDNs existing responsibilities under Standard Special Condition D21 to treat domestic customers fairly, we continue to consider it appropriate to explicitly reaffirm these responsibilities in the ERTLO. We do not consider that this change will place any additional strain on the GDNs' emergency response processes as they are already proactively identifying and responding to consumer vulnerabilities. We consider consumer vulnerability to be a key contributing factor in determining the overall safety risk posed by a gas escape, with safety risk continuing to decide prioritisation. We intend to engage with stakeholders outside of the RIIO-GD3 price control setting process to understand data sharing issues which inhibit vulnerability identification.

Emergency Response Time ODI-R

Purpose: To publicly report data for gas escape events where GDNs exceed their 1-hour (uncontrolled) and 2-hour (controlled) ERT performance thresholds.

Benefits: Provide us and stakeholders with clearer insights where individual response times exceed the ERT performance thresholds and encourage the GDNs to maintain high levels of performance in these instances.

Final Determinations summary

Design	Final Determination	Draft Determination
ODI type	Reputational.	Same as FD.
Measurement	Report separately for controlled and uncontrolled gas escapes: • the total number of responses exceeding the ERT performance thresholds (with a monthly breakdown); • the mean, median, mode and maximum duration of those responses;	Same as FD.

[24] Emergency Call Handlers listen for vulnerability indicators and provide an opportunity for the caller to raise any other relevant circumstances. This information, alongside the MPRN and PSR codes, is shared with the engineer attending the gas escape so they can tailor their response to the customer's needs.

Design	Final Determination	Draft Determination
	• the number of responses exceeding the ERT performance thresholds within time bands specified in the RIGs; • a monthly breakdown of the number of responses exceeding the ERT performance thresholds by reason for failure; and • an accessible commentary providing context and insight. Metrics should also be reported separately for consumers in vulnerable situations.	
Reporting	Annual RRPs and on the GDNs' websites. We will collate and publish ODI-R data in our Annual Reports, including comparative performance ranking.	Change - no comparative performance ranking proposed in our DD.
Applied to	All GDNs.	Same as FD.

Final Determination rationale and Draft Determination responses

ODI type

3.128 We have decided to introduce an ODI-R to report publicly on cases where the GDNs exceed their ERT performance thresholds.[25]

3.129 In response to our Draft Determinations, NGN, SGN and one consumer group supported the introduction of an ODI-R. These stakeholders considered the ODI-R to be a proportionate and effective way to strengthen trust in the sector; enable increased transparency, accountability and oversight; and incentivise the GDNs to deliver high levels of performance. The consumer group also suggested the data could potentially be used to form the basis of future updates to the LO, for example, if the ERT performance thresholds are changed from annual to seasonal or monthly.

[25] Individual gas escape responses which exceed the ERT performance thresholds do not constitute a breach of the ERTLO by a network, so long as it responds to 97% of controlled and uncontrolled gas escapes within 1- or 2-hours.

3.130 Cadent and WWU said that while they would provide the data outlined in our Draft Determinations, they did not support the introduction of an ODI-R. One suggested an ODI-R was unnecessary and did not provide an actual reputational incentive, while the other emphasised that single non-attendance within the 1- or 2-hour performance thresholds is not an ERTLO failure. This GDN stated that, if introduced, it should be named the Emergency Response Time ODI-R, rather than the ERTLO ODI-R as proposed in our Draft Determinations.

3.131 We consider introducing the ODI-R will facilitate consistent and comparable reporting across the GDNs. Publishing these metrics will incentivise the GDNs to maintain high levels of service where they have exceeded the ERT performance thresholds. We have outlined in paragraph 3.138 how we intend to maximise the reputational incentive of this ODI-R. As suggested above, the data and insights gathered through the ODI-R could also help set target baselines should we decide to update the LO in future price controls. We agree with the suggestion to name the ODI-R the "Emergency Response Time ODI-R" to acknowledge that it does not directly relate to the requirements in the ERTLO.

Measurement

3.132 We will require the GDNs to report annually through the ODI-R on the following metrics for gas escapes or other gas emergency events where their response exceeds the ERTLO 1- or 2-hour performance thresholds:

- the total number of responses which have exceeded the ERT performance thresholds (with a month-by-month breakdown);
- the mean, median and mode duration of responses which have exceeded the ERT performance thresholds;
- the maximum duration of a response which has exceeded the ERT performance thresholds;
- the number of gas escape responses which have exceeded the ERT performance thresholds within time bands specified in the RIGs;
- a monthly breakdown of the number of gas escape responses which have exceeded the ERT performance thresholds by reason for failure; and
- an accessible commentary to provide context and insight on gas escape responses which have exceeded the ERT performance thresholds.

3.133 The ODI-R metrics will be reported separately for:

- controlled gas escapes or other controlled gas emergencies; and

- uncontrolled gas escapes or other uncontrolled gas emergencies.

3.134 The GDNs will also be required to separately report on these metrics for consumers in vulnerable situations.

3.135 As above, NGN, SGN and one consumer group were supportive of the ODI-R design. Cadent, while not supportive of an ODI-R, supported the introduction of additional reporting metrics. SGN said that it currently deprioritises data collection during extreme workload events and requested new reporting requirements are first introduced outside of peak delivery seasons. Both SGN and NGN highlighted challenges in data collection for consumers in vulnerable situations on IGT networks as the NGES cannot provide MPRNs (used to identify consumers' vulnerability status) for IGT customers. The GDNs welcomed further discussions on data sharing challenges and how to ensure consistent reporting across the sector.

3.136 We will continue to engage with stakeholders to ensure consistent reporting across the GDNs, including through determining common reporting time bands, reasons for target time failures and appropriate reporting templates. We will provide further clarity to ensure reporting consistency and cross-network comparability through the RIGs. While we have currently paused a review of the energy PSR, we intend to engage with stakeholders outside of the RIIO-3 setting process to better understand and address the PSR data-sharing challenges in line with our Consumer Vulnerability Strategy (CVS).[26]

Reporting

3.137 We have decided that the GDNs should publish their networks' data for each of the metrics in an accessible format in an easy-to-find location on their respective websites. When available, the GDNs must include the previous three years of comparable data for each metric to enable stakeholders to monitor their performance over time.

3.138 The GDNs must also submit the ODI-R metric data through their annual RRPs. In the absence of historical data in this area, we will not set ODI-R targets for RIIO-GD3. However, to strengthen the reputational incentive, we will collate and comparatively rank the networks in our Annual Reports. This will enable stakeholders to easily compare performance and further incentivise the GDNs to attend gas escapes in a timely manner.

[26] Consumer Vulnerability Strategy, p18-20

3.139 NGN and SGN welcomed the enhanced transparency and visibility from our reporting proposals. Cadent, while stating that our proposed ODI-R was neither necessary nor effective in providing a reputational incentive, supported the GDNs publishing additional metrics on their respective websites or through our Annual Reports. WWU indicated it could provide the data requested. However, it was concerned that this data would not be used effectively by us since it considered attendance at public reported gas escapes to be primarily a matter for the HSE. It also considered the requirement to provide accessible commentary to be onerous. A consumer group supported our reporting proposals to facilitate scrutiny and accountability.

3.140 We agree with most stakeholders that these reporting requirements will enhance transparency, accountability and comparability, ensuring performance when the 1- and 2-hour ERT performance thresholds have been exceeded remains a priority for the GDNs. While there is an administrative burden associated with the required commentary, we consider this is necessary to ensure stakeholders can interpret the ODI-R data effectively. Comparatively ranking the networks will improve stakeholder comparison of performance across the sector and provide a greater reputational incentive to deliver high levels of performance. We will provide further clarification of how relative performance will be assessed in the RIGs.

High quality of service from regulated firms

Supporting consumers in vulnerable situations

3.141 Supporting and protecting consumers in vulnerable situations remains a key priority in RIIO-GD3, particularly given the ongoing cost of living crisis and the risks and opportunities for these consumers in the ongoing energy transition.

3.142 We have decided to maintain a significant focus on vulnerability in RIIO-GD3, including similar levels of funding to RIIO-GD2 to reflect the substantial levels of consumer need. This includes:

- baseline funding for vulnerability and carbon monoxide (CO) safety activities that are now considered business as usual (BAU), embedding these responsibilities into the GDNs' core operations;
- a £165m Vulnerability and Carbon Monoxide Allowance (VCMA) UIOLI allowance, enabling the GDNs to go even further and proactively respond to evolving consumer need through programmes that go beyond BAU activities;

- ensuring that, where possible, Disconnections Customer Satisfaction ODI-R data can be analysed separately for customers on the PSR;
- introducing ODI-Rs to monitor the customer satisfaction and complaints scores for customers on the PSR;
- requiring the GDNs and NGES to proactively identify and account for consumer vulnerability in their response to emergency gas escapes (see paragraphs 3.124-3.127); and
- retaining the RIIO-GD2 vulnerability minimum standards, including an LO to provide additional services to specified customer groups, a principles-based LO to treat domestic customers fairly, and the Guaranteed Standards of Performance (GSOPs).[27]

3.143 The following sections set out our detailed decisions on the BAU vulnerability and CO safety activities (paragraphs 3.147-3.152), VCMA (paragraphs 3.153-3.178), Disconnections Customer Satisfaction ODI-R (paragraphs 3.192-3.199), PSR Customer Satisfaction ODI-R (paragraphs 3.200-3.209), and PSR Customer Complaints ODI-R (paragraphs 3.213-3.220).

Next steps

3.144 We will continue to collaboratively engage with the GDNs and other stakeholders to update the Vulnerability and Carbon Monoxide Initiatives (VCMI) Governance Document.[28] These updates will improve reporting, governance, and focus delivery on outcome-focused initiatives.

3.145 Specifically, the updated VCMI will set out:

- clear requirements for individual and joint-GDN vulnerability strategies, including how to monitor progress against these;
- annual vulnerability reporting requirements, including on BAU vulnerability and CO safety activities and the ODI-Rs for PSR Customer Satisfaction and PSR Customer Complaints;
- VCMA project requirements, including improvements to targeting of support, stakeholder involvement, cross-sector strategic alignment, and monitoring and evaluation measures;

[27] No further detail is provided in our Final Determinations as these are not changing from the RIIO-GD2 standards.
[28] Previously named VCMA Governance Document. It has been renamed to reflect its broader scope.

- defined roles and responsibilities of the VCMA National Steering Panel and VCMA Delivery Group under a revised governance structure; and
- a requirement for the GDNs to host an annual showcase event to share project updates and learnings with stakeholders.

3.146 We will consult on the updated VCMI Governance Document in January 2026.

BAU Vulnerability and Carbon Monoxide Safety Activities

Purpose: To fund specific vulnerability and CO safety activities that are now considered BAU through baseline allowances.

Benefits: Embeds specific activities into BAU, provides confidence for longer-term project planning, and enables the VCMA to be spent on initiatives which proactively respond to specific or emerging consumer needs.

Final Determinations summary

Design	Final Determination	Draft Determination
Common BAU vulnerability and CO safety activities	Baseline allowances for common BAU vulnerability and CO activities. Activities listed in Appendix 1.	Same as FD.
Reporting	Annual reporting on common metrics through the GDNs' Annual Consumer Vulnerability Reports and annual RRPs.	Same as FD.
Applied to	All GDNs.	Same as FD.
Associated document	VCMI Governance Document.[29]	Same as FD.

Final Determination rationale and Draft Determination responses

Common BAU vulnerability and CO safety activities

3.147 Stakeholders were broadly supportive of our decision to fund these activities through baseline allowances. However, two GDNs expressed concern that funding for BAU activities would not be ringfenced from regression analysis.

3.148 As these common activities are delivered by all GDNs, we consider it appropriate to apply regression analysis to ensure cost efficiency. We have provided further information on our approach to cost assessment in Chapter 5.

[29] Previously named VCMA Governance Document. It has been renamed to reflect its broader scope.

Reporting

3.149 We will require the GDNs to report on a set of common metrics for BAU vulnerability and CO safety activities, which will be set out in the VCMI Governance Document. These metrics will be reported annually in each GDN's Annual Consumer Vulnerability Reports and in their RRPs, ensuring accountability for delivery. We will also publish key metrics through our Annual Reports to enhance the reputational incentive.

3.150 Two consumer groups and an ISG argued that reporting alone is insufficient. Two of these stakeholders called for the introduction of a LO to prescribe clear and enforceable standards for the GDNs to meet. They said this would provide greater regulatory scrutiny, ensuring that BAU activities remain a priority, preventing funds from being diverted to other operational priorities, and minimising the risk of double funding. We consider that the GDNs reporting on common metrics in their Annual Consumer Vulnerability Reports provides sufficient protection for stakeholders to hold the GDNs to account for delivery and to ensure consistency, comparability, and transparency. We do not consider a LO necessary as the reputational incentive of the reporting metrics is sufficient and proportionate to incentivise GDNs to prioritise these BAU activities.

3.151 We also expect the GDNs' ISGs to regularly review BAU activity delivery to provide an additional layer of scrutiny of the GDNs' performance against their RIIO-3 commitments.

3.152 A charity suggested new reporting metrics for CO safety to monitor delivery and provide further insights. We will continue engaging with stakeholders to ensure our reporting metrics capture relevant and comparable data, including on CO safety. We will consult on these metrics through the VCMI Governance Document early next year.

Vulnerability and Carbon Monoxide Allowance

Purpose: To fund consumer vulnerability and CO safety programmes that go beyond BAU activities funded through other price control mechanisms or required through minimum standards.

Benefits: Enables the GDNs to provide bespoke services to support consumers in vulnerable situations and raise awareness of CO.

Final Determinations summary

Design	Final Determination	Draft Determination
UM type	UIOLI.	Decided in our SSMD.
Scope	To fund consumer vulnerability and CO projects eligible under the VCMI Governance Document. VCMA funding may supplement or complement BAU activities funded through baseline allowances, provided these activities go beyond BAU delivery.	Change - no decision on allowing VCMA funds to supplement BAU activities.
Funding level	£165m, allocated to the GDNs in proportion to the forecast number of domestic gas customers served in the first year of RIIO-GD3: • Cadent: £81.9m. • NGN: £19.1m. • SGN: £44.8m. • WWU: £19.2m.	Same as FD.
Ringfenced minimum funding for collaborative projects	25% of each network's total VCMA funding for collaboration between GDNs. 3% of each network's total VCMA funding for collaboration with other utilities across energy, water and telecoms.	Change - no ringfenced funding for collaboration with other utilities.
Reporting	Individual Annual Consumer Vulnerability Report, Joint-GDN Annual Consumer Vulnerability Report, Annual Showcase Event, and annual RRPs.	Decided in our SSMD.
Applied to	All GDNs.	Decided in our SSMD.
Associated document	VCMI Governance Document.[30]	Same as FD.

Final Determination rationale and Draft Determination responses

UM type

3.153 As decided in our SSMD, we will retain the VCMA as a UIOLI allowance in RIIO-GD3. While we did not explicitly consult on this in our Draft Determinations, in

[30] Previously named VCMA Governance Document. It has been renamed to reflect its broader scope.

their responses three GDNs, two ISGs, a DNO and six other stakeholders continued to strongly support the retention and design of the UIOLI allowance.

Scope

3.154 We confirm our SSMD decision that the VCMA will continue funding initiatives addressing consumer vulnerability and CO safety, where these go beyond activities funded through other price control mechanisms or required by LOs. VCMA projects must meet the eligibility criteria set out in the VCMI document and should either:

- support consumers in vulnerable situations and relate to energy safeguarding;
- support those most at risk of being left behind in the energy transition;
- raise awareness of the dangers of CO; or
- reduce the risk of harm caused by CO.

3.155 The GDNs' VCMA projects should be informed by their individual and joint vulnerability strategies, respond to consumer needs, and focus on their existing areas of competence, activity and consumer interaction. We have also decided to allow the GDNs to use VCMA funding to supplement or complement BAU vulnerability and CO safety activities, provided their vulnerability reporting provides sufficient evidence to prevent double funding.

3.156 In response to our Draft Determinations, a charity requested greater flexibility to allow VCMA projects to better respond to changing policy landscapes and emerging challenges, while another stressed the importance of avoiding further funding restrictions. However, we consider the existing VCMA scope remains appropriate and flexible enough to address consumers' needs within the GDNs' role.

3.157 One GDN and three other stakeholders supported the use of VCMA funding to supplement BAU activities in specific circumstances – for example where a BAU activity such as providing CO education is delivered by a GDN or a partner organisation through a fuel poverty-focused VCMA project – or to enable GDNs to respond to changes in legislation, messaging or technological advancements. Stakeholders argued this could streamline costs and ensure consistent access to PSR or CO safety services. However, a consumer group raised concerns about double funding, and several stakeholders called for transparent reporting to clearly capture projects spanning UIOLI and BAU activities.

3.158 We agree that VCMA funding may supplement or complement BAU activities funded through baseline allowances, provided these activities go beyond BAU

delivery. GDNs must ensure their reporting provides sufficient evidence to prevent double funding. The VCMI Governance Document will define where supplementary or complementary funding is allowed and require robust reporting to mitigate the risk of double funding.

Funding level

3.159 We have confirmed our Draft Determinations proposal to set VCMA funding at £165m in RIIO-GD3, allocated to the GDNs in proportion to the forecast number of domestic gas customers served in the first year of RIIO-GD3. This funding is split between individual projects, GDN collaborative projects and cross utility collaborative projects, as shown in Table 9.

Table 9: GDN VCMA funding in RIIO-GD3

GDN	**GDNs' total VCMA funding in RIIO-GD3**	**Ringfenced minimum funding for GDN collaborative projects (25% of total VCMA)**	**Ringfenced minimum funding for cross-utility collaborative projects (3% of total VCMA)**
Cadent	£81.9m	£20.5m	£2.5m
NGN	£19.1m	£4.8m	£0.6m
SGN	£44.8m	£11.2m	£1.3m
WWU	£19.2m	£4.8m	£0.6m
Total	**£165.0m**	**£41.3m**	**£5.0m**

3.160 Three GDNs, three ISGs, two consumer groups and three charities supported our proposed £165m funding level. These stakeholders cautioned against further reducing the allowance given the positive impact of the VCMA in RIIO-GD2 and the limited availability of alternative funding sources. Twelve charities and one DNO disagreed with our proposed funding, arguing that reducing funding from the RIIO-GD2 level of £171m could reverse recent progress and restrict support at a time when demand for vulnerability services is increasing.

3.161 We consider that £165m is an appropriate funding level for the VCMA. The size of the overall RIIO-GD3 vulnerability package remains significant, with some BAU vulnerability and CO safety activities now being funded through baseline allowances (as set out in the previous section). This approach ensures VCMA funding can be directed toward more bespoke projects or those addressing specific or emerging issues, such as fuel poverty. Investment and learning from RIIO-GD2 will also enable the GDNs to deliver projects with greater reach and impact at a lower cost to consumers in RIIO-GD3. We want to encourage the

GDNs to focus VCMA resources on projects that deliver the greatest consumer benefit and where they are best placed to act. We also note that the GDNs can supplement VCMA projects with funding from their own charitable foundations or other sources.

Ringfenced minimum funding for collaborative projects

3.162 We have decided to maintain a ringfenced minimum of 25% of total VCMA funding for collaborative projects between GDNs. In addition, we will introduce a further 3% ringfenced minimum for projects where the GDNs collaborate with other utilities across energy, water and telecoms.

3.163 In response to our Draft Determinations and engagement on VCMI Governance Document updates, most stakeholders – including three GDNs, one consumer group and a charity – supported retaining the 25% minimum. The three GDNs highlighted that most networks exceeded this threshold in RIIO-GD2 and cautioned that increasing it could:

- reduce their responsiveness to local needs and the evolving vulnerability landscape;
- limit their ability to deliver bespoke community services; and
- reduce collaboration with grassroots organisations.

3.164 The consumer group also highlighted that increasing the minimum threshold could negatively impact Scottish consumers, as many partner organisations do not work across Scotland as well as England and Wales.

3.165 However, three stakeholders – including two consumer groups – supported increasing the ringfenced minimum funding for collaborative projects, with one of the consumer groups suggesting setting this ringfenced minimum at 50% of VCMA funding. They suggested this would:

- drive strategic thinking and consistency across the GDNs;
- leverage economies of scale;
- reduce the proportion of funding spent on administration;
- encourage expansion of existing projects; and
- increase opportunities for collaboration with wider stakeholders.

3.166 One of the consumer groups suggested allowing the GDNs to apply to us to lower this threshold in-period, if justified, while another suggested that additional ringfenced funds could support collaboration with DNOs.

3.167 We have decided to retain the 25% minimum for GDN collaborative projects (£41.3m). This ensures continued project delivery by local, grassroots organisations and reflects the challenges posed by regional partner organisations' remits. While we acknowledge concerns about VCMA project efficiency, the GDNs have committed to delivering greater project reach and impact at a lower cost in RIIO-GD3. We expect the GDNs' ISGs to regularly review VCMA project delivery to provide an additional layer of scrutiny.

3.168 However, we agree that incentivising collaboration with wider utilities could benefit consumers, given the shared opportunities to more effectively support consumers in vulnerable situations. Therefore, we will introduce an additional 3% ringfence (£5m) for projects involving other utilities. While this is a relatively small proportion of VCMA funding, we consider that it will encourage the GDNs to further engage with other utilities across energy, water and telecoms to pursue new opportunities to strategically align and collaborate. We will update the VCMI Governance Document to provide further clarity and maximise the benefit of this ringfenced funding.

Reporting

3.169 The GDNs must report on their VCMA projects as part of their individual and collaborative Annual Consumer Vulnerability Reports. These reports should include a concise overview of the GDN's use of the VCMA and use a standardised reporting template to facilitate improved oversight and accountability.

3.170 In response to our Draft Determinations, one consumer group suggested we review the common Social Return on Investment (SROI) tool to ensure consistency in its adoption, as it is a key measure for analysing VCMA projects. In working groups, the GDNs emphasised that SROI should be considered alongside other metrics to give a holistic overview of project impact. Some consumer groups called for greater transparency in how SROI is forecast and proposed that actual SROI be reported upon project completion.

3.171 We will continue to engage with stakeholders to update the reporting requirements in the VCMI Governance Document, including for the Annual Showcase Event. We will consider updates to improve SROI transparency and facilitate increased consistency in its application.

VCMA Governance

3.172 We have decided to strengthen the VCMA governance structure to improve oversight, accountability and strategic alignment of collaborative projects. This represents a change from our Draft Determinations and includes the creation of:

- an ISG-led National Steering Panel to drive strategic alignment and outcomes-focused collaboration; and
- a GDN-led Delivery Group to support project co-design and proportionate monitoring and evaluation to maximise impact.

3.173 We also expect the GDNs' ISGs to critically review the Annual Consumer Vulnerability Reports to hold the GDNs accountable for the effective delivery of their individual VCMA projects and vulnerability strategies.

3.174 In response to our Draft Determinations, a consumer group argued there should be a step-change in VCMA governance. It noted that the current VCMA governance arrangements are an outlier given the size of the allowance, when compared to similar funding mechanisms. It also said that it is currently difficult to assess projects' value for money and that there is limited strategic oversight.

3.175 While we recognise the success of the VCMA during RIIO-GD2, we agree that strengthening the governance structure will help improve the delivery of consumer benefits in RIIO-GD3. We will therefore introduce a National Steering Panel and a Delivery Group.

3.176 The National Steering Panel, comprising members from each of the GDNs' ISGs with a rotating chair, will aim to increase strategic alignment between the GDNs and enhance collaboration to deliver outcomes-focused projects. We expect it to meet the GDNs quarterly or biannually.

3.177 The Delivery Group will be formed of representatives from the four GDNs, consumer groups and grassroots partner organisation. It will address the priorities identified by the National Steering Panel, facilitate collaborative project co-design and oversee proportionate monitoring, evaluation and application of learnings. We expect this group to meet monthly or every six weeks.

3.178 We consider this governance structure to be proportionate to the level of VCMA funding in RIIO-GD3. It is designed to improve oversight and accountability, strengthen strategic alignment, maintain flexibility, increase opportunities for learning and sharing best practice, and enhance the design of outcomes-focused projects. We have already engaged with stakeholders on the development of the VCMA governance structure and will continue to do so following our Final

Determinations. In January 2026, we will consult on a draft version of the VCMI Governance Document to formalise and define the roles, responsibilities and memberships of the National Steering Panel and Delivery Group. We welcome further feedback during this consultation to ensure the governance arrangements are robust and effective.

Customer Satisfaction ODI-F

Purpose: To incentivise the GDNs to maintain and consolidate high quality customer service.

Benefits: Rewards will encourage the GDNs to continue to deliver exceptional customer service while penalties will ensure performance does not deteriorate.

Final Determinations summary

Design	Final Determination	Draft Determination
ODI type	Financial – reward and penalty.	Decided in our SSMD.
Measurement	Scores based on three survey areas, each weighted at a fixed 33.33% of the ODI-F.	Decided in our SSMD.
Survey scope and methodology	Three survey areas: Connections, Unplanned work, and Planned work.	Decided in our SSMD.
Connections survey minimum thresholds	Minimum of 200 survey returns. Incentive rate tapered based on the number of surveyable connections jobs - linearly scaled from 100% at 1,500 jobs to 0% at zero jobs.	Change - proposed a minimum of 240 survey returns, and a minimum number of 1,000 surveyable connections jobs.
Targets	Targets for each of the three survey areas: Connections: 9.09 out of 10. Planned work: 8.96 out of 10. Unplanned work: 9.58 out of 10.	Change - targets have been updated based on latest RRP data.

Design	Final Determination	Draft Determination
Incentive exposure	The following percentages of RoRE: • EoE: 0.27% • Lon: 0.26% • NW: 0.26% • WM: 0.26% • NGN: 0.26% • Sc: 0.27% • So: 0.25% • WWU: 0.27%	Change - updated the RoRE percentages to maintain equivalence with 0.5% of base revenue, in line with our SSMD.
Incentive value	Rewards and penalties applied linearly between the penalty/reward score and the maximum penalty/reward score. Rewards and penalties split equally between three survey areas.	Decided in our SSMD.
Reporting	RRPs.	Decided in our SSMD.
Applied to	All GDNs.	Decided in our SSMD.

Final Determination rationale and Draft Determination responses

Measurement, survey scope and methodology

3.179 We have decided to implement the ODI-F using three surveys for Connections, Unplanned work and Planned work. Each survey will carry a fixed weighting of 33.33% within the ODI-F.

3.180 All ten respondents supported retaining the three survey areas and the measurement methodology. However, two stakeholders said that the Connections survey should have a lower weighting, given the expected decline in connections volumes during RIIO-GD3. The GDNs also raised concerns regarding the proposed workload and survey response minimum thresholds required to qualify for the Connections element of the incentive.

3.181 We disagree that the Connections survey should have a lower weighting. While we acknowledge that connection volumes may fall during RIIO-GD3, our approach protects consumers from the risk of over-rewarding GDNs by reducing the maximum reward available as connection volumes drop.

Connections survey minimum thresholds

3.182 For the Connections survey element of the ODI-F, we have decided to set:

- a minimum threshold of 200 survey returns, below which the GDN will not be eligible for a penalty or a reward for the Connections element in that regulatory year; and
- a tapered incentive value based on the number of surveyable connections jobs completed in a regulatory year, scaled linearly from 100% at 1,500 jobs to 0% at zero jobs.

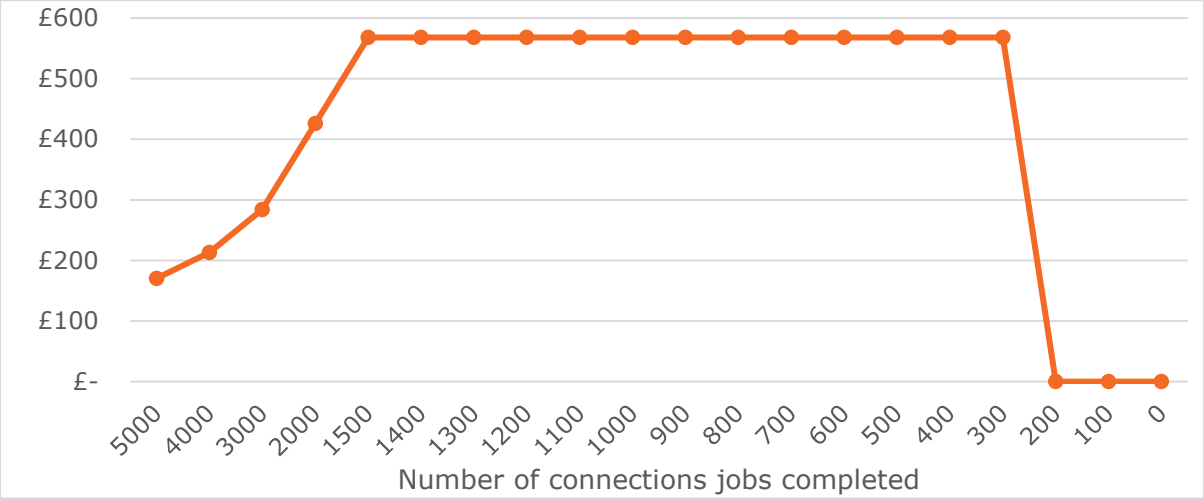
3.183 This is a change from our Draft Determinations, where we proposed minimum thresholds of 240 survey responses and 1,000 surveyable connections jobs undertaken.

3.184 All six stakeholders who commented on the proposal agreed with the need for a minimum threshold. However, Cadent and SGN argued that our proposed threshold of 240 survey returns was too strict. They instead proposed static survey return thresholds between 200-250 and 100-200 respectively. Cadent's analysis, indicating that a threshold in the range of 200-250 would ensure statistically robust datasets, is consistent with our own analysis since Draft Determinations. We have therefore set the minimum number of survey returns at 200, as we consider this level sufficient to ensure robust data for assessing performance.

3.185 Both Cadent and SGN disagreed with our proposed minimum workload threshold of 1,000 jobs, arguing that volumes of work below this level should still attract rewards. While we agree that customer satisfaction remains important regardless of the workload, we remain concerned that without any threshold, the relative value of the reward could become disproportionate to the consumer benefit.

3.186 Our decision to taper the incentive rate below 1,500 jobs ensures that the relative value of the incentive remains proportionate as workloads decreases. As Figure 3 shows, tapering the available reward continues to provide the GDNs with a meaningful incentive per job completed while ensuring consumers do not pay disproportionately.

Figure 3: The GDN average maximum reward per individual job as the number of jobs decreases



3.187 The process for determining the penalty or reward received by a network in a given regulatory year will therefore be to:

- Confirm 200 or more survey returns received.
- Calculate the percentage of the incentive available based on the number of jobs completed.
- Assess performance to determine how much of available incentive is applied.

Target

3.188 The RIIO-GD3 target scores and deadbands for the three survey areas are set out in Table 10. These have been updated since our Draft Determinations to include performance from the latest RRPs.

Table 10: RIIO-GD3 Customer Satisfaction ODI-F targets

Customer satisfaction survey area	**Max. Penalty Score**	**Penalty Score**	**Target Score**	**Reward Score**	**Max. Reward Score**
Planned Work	8.66	8.79	8.96	9.13	9.21
Unplanned Work	9	9	9.58	9.69	9.75
Connections	8.73	8.88	9.09	9.29	9.39

3.189 The target scores have been set using the methodology we proposed in our Draft Determinations:

- for all three survey areas, the reward score is set at 1 standard deviation from the average RIIO-GD2 score;

- for the Planned work and Connections survey areas, the penalty score is set at 1 standard deviation and the maximum penalty score at 1.75 standard deviations from the average RIIO-GD2 score; and
- for the Unplanned work survey area, we will not apply a penalty for scores above nine, but the maximum penalty will apply for any score below nine.

3.190 All ten stakeholders who responded on this topic were supportive of the proposed targets and deadbands for the Planned Work and Unplanned Work elements. However, the four GDNs and SGN's ISG raised concerns about the Connections survey targets, citing the potential impact of the removal of the Domestic Load Connections Allowance (DLCA) on survey performance in this area. WWU and NGN specifically requested a review of the Connections survey targets after the first year of RIIO-GD3.

3.191 We have decided not to adjust the Connections survey targets to account for the removal of the DLCA at this stage. We do not think the argument it will be affected is compelling given most gas consumers won't have the counterfactual of a lower historic cost. However, if the GDNs provide evidence that the removal of the DLCA has caused a material, sector-wide decline in Connections survey scores sustained throughout the first year of RIIO-GD3, we will consider reviewing these targets after year one. If we decide to amend the targets, the revised targets will apply for the remainder of RIIO-GD3, and we will consider applying them retroactively to year one performance.

Disconnections Customer Satisfaction ODI-R

Purpose: To incentivise the GDNs to deliver high quality customer service when delivering gas disconnections.

Benefits: The reputational incentive will encourage the GDNs to deliver high-quality customer service, enable understanding of GDN performance in this area and develop baseline data for a possible financial incentive in RIIO-GD4.

Final Determinations summary

Design	Final Determination	Draft Determination
ODI type	Reputational.	Same as FD.
Measurement, survey scope and methodology	One survey for consumer-led, paid disconnections. One survey for consumers receiving a safety-driven, socialised disconnection.	Same as FD.

Design	Final Determination	Draft Determination
Reporting	RRPs, on the GDNs' websites, and in Annual Reports.	Same as FD.
Applied to	All GDNs.	Same as FD.

Final Determination rationale and Draft Determination responses

ODI type

3.192 We have decided to introduce an ODI-R to require public reporting of Disconnections Customer Satisfaction survey performance.

3.193 We received unanimous support for our Draft Determinations proposal to introduce this ODI-R – all the GDNs, an ISG, one DNO and two consumer groups agreed. The ISG and consumer groups encouraged a focus on end-to-end oversight of the consumer experience, while the DNO emphasised the need to ensure a smooth customer experience across both gas disconnection and electricity connection processes. One consumer group also noted that if an ODI-F was introduced for disconnections surveys in a future price control, it would have to reflect aspects of the disconnections process that fall outside of the GDNs' responsibilities.

3.194 We consider that introducing this ODI-R will enable effective monitoring of customer satisfaction in an area of increasing activity. Public reporting will support transparency, accountability and the development of baseline targets for RIIO-GD4. It will also incentivise the GDNs to adopt behaviours that improve outcomes for consumers.

Measurement, survey scope and methodology

3.195 We have decided to introduce two separate Disconnections surveys as part of the ODI-R. One survey will measure customer satisfaction for consumer-led, paid-for disconnections, while the other will measure satisfaction for safety-driven, socialised disconnections carried out by the GDNs as part of their responsibilities under HSE legislation. The GDNs have designed, developed and trialled both surveys during RIIO-GD2. To ensure consumers in vulnerable situations receive an equivalent level of service to the wider customer base, the GDNs should, where possible, ensure data can be separately analysed for customers on the PSR.

3.196 In response to our Draft Determinations, one GDN highlighted the practical challenges with surveying safety-driven disconnections, including identifying appropriate survey recipients and the risk of a low response rate. Another GDN

suggested that safety-driven disconnection survey scores may not accurately reflect performance, as some customers may be dissatisfied with their gas connection being removed, regardless of service quality. The GDNs also highlighted difficulties in reporting PSR-specific customer data as PSR status may no longer be visible to the GDNs once the MPRN and gas meter have been removed.

3.197 We consider that a safety-driven disconnections survey remains appropriate. It is important customers receiving these disconnections experience high-quality service. While we acknowledge GDN concerns that the survey scores for safety-driven disconnections could be lower than those for paid-for disconnections, reporting the results separately will allow for evidence-based assessments of performance. We will continue to work with the GDNs and stakeholders to understand and address challenges related to reporting for customers on the PSR, particularly for safety-driven disconnections, and may provide further guidance in the RIGs.

Reporting

3.198 We will require the GDNs to publicly report their ODI-R performance in an accessible, comparable format in an easy-to-find location on their websites. When available, the GDNs should publish this alongside comparable data from previous years, up to and including the 3 years preceding the most recently submitted RRP. This will enable consumers and other stakeholders to monitor and hold the GDNs accountable for their Disconnections customer satisfaction performance.

3.199 To facilitate cross-GDN comparison, the GDNs must also submit their performance data to us as part of their annual RRPs. We will collate and publish this data as part of our annual reports to ensure stakeholders can monitor performance across GB and provide a further incentive for the GDNs to deliver high-quality service in this growing area.

PSR Customer Satisfaction ODI-R

Purpose: To ensure that the GDNs provide an equally high level of customer satisfaction for customers on the PSR as they do for their general customer base.

Benefits: The ODI-R will provide standardised information to hold the GDNs accountable for their customer service for PSR customers.

Final Determinations summary

Design	Final Determination	Draft Determination
ODI type	Reputational.	Decided in our SSMD.
Measurement	Scores based on three equally weighted surveys.	Decided in our SSMD.
Targets	Targets for each of the three survey areas: Connections: 9.09 out of 10. Planned work: 8.96 out of 10. Unplanned work: 9.58 out of 10.	Change - targets have been updated based on latest RRP data.
Survey scope and methodology	Three customer satisfaction survey areas for Connections, Unplanned work, and Planned work.	Decided in our SSMD.
Reporting	Annual Consumer Vulnerability Reports and RRPs.	Change - did not propose RRP reporting.
Applied to	All GDNs.	Decided in our SSMD.
Associated document	VCMI Governance Document.[31]	Same as FD.

Final Determination rationale and Draft Determination responses

ODI type

3.200 As decided in our SSMD, we will introduce a PSR Customer Satisfaction ODI-R in RIIO-GD3. We received broad support for our PSR Customer Satisfaction ODI-R design in response to our Draft Determinations consultation, with all the GDNs, an ISG, and a consumer group agreeing with introducing the mechanism. Two GDNs requested further engagement to discuss PSR data sharing issues, including the challenges that limited data poses to the provision of bespoke and tailored services to PSR customers. A DNO was more neutral in response to our proposals, but stated (subject to the caveats outlined in paragraph 3.203) that comparing the experience of PSR and non-PSR customers is important to demonstrate commitment to, and the quality of service delivered for, vulnerable customers.

3.201 The consumer group also stated a preference to see the ODI-R metrics incorporated into the Customer Satisfaction ODI-F. While we agree with the importance of ensuring PSR customers receive an equally high level of customer service, we do not consider it appropriate to incorporate this incentive into the Customer Satisfaction ODI-F as this could result in double counting. We consider

[31] Previously named VCMA Governance Document. It has been renamed to reflect its broader scope.

the ODI-R, and its associated reporting requirements, will provide a sufficient incentive to protect consumers in vulnerable situations. We intend to engage with stakeholders outside of the RIIO-GD3 setting process to better understand and address the PSR data-sharing challenges in line with our CVS.[32]

Measurement

3.202 The PSR Customer Satisfaction ODI-R will be measured through the three Customer Satisfaction ODI-F survey areas (see paragraph 3.179).

3.203 In response to our Draft Determinations, a DNO highlighted that the PSR customer experience is already captured in the Customer Satisfaction ODI-F. It also raised concerns around PSR data quality and reach – specifically that some vulnerable customers will not be PSR-registered, and that PSR customers could face barriers to participating in surveys, which could affect data quality.

3.204 We consider an ODI-R appropriate to incentivise the right behaviours, while mitigating the impacts of double counting that would occur under an ODI-F. We acknowledge the potential issues around identification and survey participation of consumers in vulnerable situations, and we will consider providing further clarification in the RIGs on ways to make the surveys more accessible.

Targets

3.205 We will set common PSR Customer Satisfaction ODI-R targets at the same levels as the Customer Satisfaction ODI-F to ensure consumers in vulnerable situations receive a consistent standard of service to the GDNs' general consumer base. These targets are set out in Table 10.

3.206 In response to our Draft Determinations, two GDNs asked that we recalibrate the performance target for the Connections survey, in line with their position on the Connections element of the Customer Satisfaction ODI-F. SGN suggested that the removal of the DLCA may have a greater impact on PSR customers' satisfaction levels, since the increasing costs will have a relatively greater impact on affordability for customers on lower incomes.

3.207 As with the Customer Satisfaction ODI-F, we have decided not to adjust the PSR Connections survey targets to account for the removal of the DLCA, as there is insufficient evidence to determine what, if any, impact the removal of the DLCA will have on PSR customers' satisfaction scores. However, if we decide to review and update the Customer Satisfaction ODI-F Connections survey scores as set out

[32] Consumer Vulnerability Strategy, p18-20

in paragraph 3.191, we will consider updating the associated PSR Connections targets in this ODI-R.

Reporting

3.208 The GDNs will be required to report PSR Customer Satisfaction scores in an accessible format in their Annual Consumer Vulnerability Reports, providing commentary to explain differences in performance to the Customer Satisfaction ODI-F. This data must be provided for the three survey areas alongside their Customer Satisfaction ODI-F scores to enable comparison of performance across PSR and non-PSR customers. These reporting requirements will be set out in the VCMI Governance Document.

3.209 We will also require the GDNs to submit ODI-R data through their annual RRPs and intend to publish a league table in our Annual Reports. This is a change from our Draft Determinations position in response to a request from a consumer group to standardise data and publish it in a league table format to facilitate easier comparison. We agree with these requests as they will increase the strength of the reputational incentive associated with the reporting metrics. We will engage with stakeholders to ensure standardisation through development of the VCMI Governance Document, including considering a role for the Future Energy Networks trade association in facilitating this.

Complaints Metric ODI-F

Purpose: To ensure the GDNs maintain effective performance in their handling of complaints.

Benefits: Retaining a penalty-only incentive will ensure consumers' complaints are dealt with quickly and effectively.

Final Determinations summary

Design	Final Determination	Draft Determination
ODI type	Financial - penalty only.	Decided in our SSMD.
Measurement	Score based on four weighted indicators.[33] The lower the score, the better the GDN is at resolving complaints.	Decided in our SSMD.

[33] These are: Complaints unresolved in one working day (10% weight), Complaints unresolved in 31 working days (30% weight), Repeat complaints (50% weight) and Energy Ombudsman decisions against the GDN as a percentage of total complaints (10% weight).

Design	Final Determination	Draft Determination
Target	GDNs will receive a penalty for scores above 3.5.	Same as FD.
Incentive exposure	Penalty cap at the following percentages of RoRE: • EoE: 0.27% • Lon: 0.26% • NW: 0.26% • WM: 0.26% • NGN: 0.26% • Sc: 0.27% • So: 0.25% • WWU: 0.27%	Change - updated the RoRE percentages to maintain equivalence with 0.5% of base revenue, in line with our SSMD.
Incentive value	Penalties apply linearly above the minimum performance level up to a maximum penalty for scores of 5 or above.	Same as FD.
Reporting	Annual reporting through the RRPs.	Decided in our SSMD.
Applied to	All GDNs.	Decided in our SSMD.

Final Determination rationale and Draft Determination responses

Target

3.210 We have decided to set the minimum performance level at 3.5, above which a GDN will receive a penalty, as proposed in our Draft Determinations. All eight stakeholders who responded broadly supported the structure of the ODI-F and the associated target, with six of these agreeing with lowering the complaint score threshold. These stakeholders recognised that, given the performance improvements seen over RIIO-GD2, maintaining current thresholds could result in significant performance deterioration without penalty. Cadent took a different view, arguing that the proposed threshold should remain at the RIIO-GD2 performance level of 5. We have set the target at 3.5 because keeping it at 5 would allow a significant deterioration in performance with no penalty incurred, which is not in consumers' interest.

3.211 A consumer group advocated for a dynamic minimum performance level but supported our proposed level if a static approach was used. As this incentive is intended as a backstop mechanism rather than a driver of performance, we consider that a static target that maintains current performance standards remains appropriate.

Incentive value

3.212 We have confirmed our Draft Determinations proposal that financial penalties will apply linearly above the minimum performance threshold, with a maximum penalty equivalent to an average of 0.26% of RoRE for scores of 5 or above.[34] No stakeholders provided responses on the incentive value. We consider it appropriate to adopt this approach, lowering the maximum penalty score from 10 in RIIO-GD2 to encourage consistent performance across the GDNs.

PSR Customer Complaints ODI-R

Purpose: To ensure that the GDNs handle complaints for customers on the PSR as well as they do for those in their general customer base.

Benefits: The ODI-R will provide standardised information to hold the GDNs accountable for their complaints handling performance for PSR customers.

Final Determinations summary

Design	Final Determination	Draft Determination
ODI type	Reputational.	Decided in our SSMD.
Measurement	Score based on four weighted indicators, as used in the Complaints Metric ODI-F. The lower the score, the better the GDN is at resolving complaints.	Decided in our SSMD.
Target	3.5.	Same as FD.
Reporting	Annual Consumer Vulnerability Reports.	Same as FD.
Applied to	All GDNs.	Decided in our SSMD.
Associated document	VCMI Governance Document.[35]	Same as FD.

Final Determination rationale and Draft Determination responses

ODI type

3.213 As decided in our SSMD, we will introduce a PSR Customer Complaints ODI-R. We received broad support for our PSR Customer Complaints ODI-R design in response to our Draft Determinations. All of the GDNs, an ISG, and a consumer

[34] This percentage has been updated since our Draft Determinations to maintain equivalence with 0.5% of base revenue, in line with our SSMD.
[35] Previously named VCMA Governance Document. It has been renamed to reflect its broader scope.

group supported introducing the mechanism. One DNO was more neutral in its response.

3.214 The consumer group stated a preference to see the ODI-R metrics incorporated into the Complaints Metric ODI-F. While we agree with the importance of ensuring PSR customers receive an equally high level of complaints handling, we do not consider it appropriate to incorporate this incentive into the Complaints Metric ODI-F as this could result in double counting. We consider the ODI-R, and its associated reporting requirements, will provide a sufficient incentive to protect consumers in vulnerable situations.

Measurement

3.215 The PSR Customer Complaints ODI-R performance will be scored based on the four weighted indicators used in the Complaints Metric ODI-F.[36]

3.216 In response to our Draft Determinations, SGN requested confirmation that the ODI-R target will use the same definition as the RIIO-GD2 GSOP 3.[37] This definition requires that customers must be registered on the PSR at least 30 days prior to the start of planned work – or, in this case, at the time the complaint is logged. One DNO highlighted that the PSR customer experience is already captured in the Customer Satisfaction ODI-F and raised concerns around PSR data quality and reach – specifically that some vulnerable customers will not be registered on the PSR and that PSR customers may face barriers to participating in surveys, which could affect data quality.

3.217 We acknowledge there could be issues with identifying consumers in vulnerable situations, and that some consumers on the PSR may find it more difficult to make a complaint. However, the metrics associated with the PSR Customer Complaints ODI-R do not rely on the completion of a survey. We will continue to work with stakeholders to develop the ODI-R further through the development of the VCMI Governance Document and the RIGs, including considering how to define a PSR customer for the purpose of the ODI-R.

Target

3.218 We will set the common PSR Customer Complaint ODI-R minimum performance level at 3.5. This is the same level as the Complaints Metric ODI-F to ensure

[36] These are: Complaints unresolved in one working day (10% weight), Complaints unresolved in 31 working days (30% weight), Repeat complaints (50% weight) and Energy Ombudsman decisions against the GDN as a percentage of total complaints (10% weight).
[37] GSOP 3 requires that, in the event of an interruption, the GDN must provide alternative cooking and heating facilities to priority domestic customers.

consumers in vulnerable situations receive a similar standard of complaints handling as the GDNs' general consumer base. Cadent and one DNO supported setting the ODI-R target at the same level as the Complaints Metric ODI-F.

Reporting

3.219 We will require the GDNs to report PSR Customer Complaints scores in an accessible format in their annual consumer vulnerability reports. The scores must be provided alongside their Complaints Metrics ODI-F scores, including a breakdown of the four weighted indicators and commentary to explain differences in performance. This will enable comparison of performance across PSR and non-PSR customers. These reporting requirements will be set out in the VCMI Governance Document.

3.220 We have also decided to require the GDNs to submit ODI-R data through their annual RRPs and publish this as a league table in our Annual Reports. This is a change in our Draft Determinations position, in response to a request from a consumer group that we publish collated network data in a league table format to facilitate comparison. We agree with these requests as they will increase the strength of the reputational incentive associated with the reporting metrics.

Unplanned Interruptions ODI-F

Purpose: To protect consumers by incentivising the GDNs to minimise the duration of unplanned interruptions.

Benefits: Managing the duration of interruptions reduces negative impact on customers, ensuring they do not experience prolonged periods without gas.

Final Determinations summary

Design	Final Determination	Draft Determination
ODI type	Financial - penalty only.	Decided in our SSMD.
Measurement	The average duration of all unplanned interruptions during the relevant regulatory year, measured in hours, for two metrics: Multiple Occupancy Buildings (MOBs) and non-MOBs.	Decided in our SSMD.
Targets	(i) Network-specific Multiple Occupancy Buildings (MOBs) targets;	Change – common non-MOB targets for all GDNs, including Cadent London and SGN Southern.

Design	Final Determination	Draft Determination
	(ii) A common non-MOB minimum performance level (MPL) target of 13 hours and excessive deterioration level (EDL) target of 18 hours for all networks except Cadent London and SGN Southern; and (iii) A non-MOB MPL target of 15 and EDL target of 20 for Cadent London and SGN Southern only.	
Incentive exposure	Penalty cap at the following percentages of RoRE: • EoE: 0.27% • Lon: 0.26% • NW: 0.26% • WM: 0.26% • NGN: 0.26% • Sc: 0.27% • So: 0.25% • WWU: 0.27%	Change - updated the RoRE percentages to maintain equivalence with 0.5% of base revenue, in line with our SSMD.
Incentive value	The penalty will increase linearly above the MPL with a cap at the EDL.	Decided in our SSMD.
Reporting	Annual reporting through the RRPs.	Same as FD.
Applied to	All GDNs.	Same as FD.

Final Determination rationale and Draft Determination responses

Targets

MOB performance targets

3.221 We have decided to set network-specific MOB unplanned interruption targets as set out in Table 11. These targets have been updated since our Draft Determinations to include the performance from the latest RRPs.

Table 11: RIIO-GD3 MOB Unplanned Interruptions ODI-F targets

GDN	EOE	Lon	NW	WM	NGN	Sc	So	WWU
MPL (hours)	392	593	276	388	212	549	212	212
EDL (hours)	592	793	476	588	412	749	412	412

3.222 The MPL (at which point a penalty will be incurred) and EDL (at which point the maximum penalty will be incurred) target scores have been set using the methodology we proposed in our Draft Determinations:

- for Cadent and SGN, the MPL targets are based on the lowest of:

  (1) the highest annual average duration for each network since 2019/20; or

  (2) the proposals put forward in its business plan;

- for NGN and WWU, we have set the same MPL as for SGN Southern, which is based on the highest annual average duration for its network; and
- for all networks the EDL targets are 200 hours greater than the MPL.

3.223 Given that NGN and WWU have a limited number of MOBs and low unplanned interruption durations in RIIO-GD2, basing targets on their RIIO-GD2 data could expose them to significant performance volatility from a single large incident. To address this and ensure consumers receive a comparable level of service nationwide, we consider it appropriate to apply SGN Southern's targets, as it has the next lowest benchmark.

3.224 The 200-hour interval between the MPL and EDL for MOBs is consistent with our RIIO-GD2 approach for Cadent networks. We consider that this interval is appropriate for other networks based on our assessment of historical performance and to provide continuity and ease of comparison.

3.225 All four GDNs disagreed with our proposed MOB targets and methodology. NGN and WWU suggested that regional differences only have a marginal impact and raised concerns that network-specific targets could lead to inconsistent service for customers. Cadent said we need to further account for specific regional factors like riser distribution that may leave some of its networks vulnerable to performance swings. SGN suggested more achievable targets should be in place to account for local characteristics of individual networks.

3.226 We have decided to retain our Draft Determination position. Significant variation in performance and MOB populations means that common industry thresholds are not feasible. Our specified targets and proposed methodology therefore account for the network-specific factors that could result in networks being unfairly penalised for breaching the threshold.

Non-MOB performance targets: all GDNs except Cadent London and SGN Southern

3.227 We have decided to set common industry non-MOBs targets for all networks except Cadent London and SGN Southern, which are addressed in the next section. These targets follow the methodology proposed in our Draft Determinations, using the highest annual average duration recorded during the first four years of RIIO-GD2. This results in an MPL target of 13 hours and an EDL target of 18 hours. The five-hour interval between the MPL and EDL for non-MOBs is consistent with our RIIO-GD2 approach for Cadent networks. We consider this approach is appropriate for other networks as well, based on historical network performance and to provide continuity and ease of comparison.

3.228 In response to our Draft Determinations, four of the seven stakeholders that responded suggested that we consider more stretching targets. Whilst two stakeholders agreed with our proposed common non-MOB targets, they suggested that setting stronger thresholds would drive improvements in performance. We have not strengthened the targets as this ODI was introduced to safeguard existing performance standards, rather than to incentivise further improvements.

3.229 Cadent and SGN opposed our proposed common non-MOB targets for their London and Southern networks respectively, arguing that these could unfairly penalise these networks for factors beyond their control. NGN and WWU were supportive of our proposed approach to common non-MOB targets for all GDNs. After reviewing the evidence, we have decided to adjust the non-MOB targets for the two most affected networks, as outlined below.

Non-MOB performance targets: Cadent London and SGN Southern only

3.230 We have decided to implement different non-MOB targets for Cadent London and SGN Southern. For both networks, the MPL target is 15 hours, and the EDL target is 20 hours. The MPL target is based on the average of the two networks, calculated from the highest average annual duration recorded during the first four years of RIIO-GD2. This is a change from our Draft Determinations, where we proposed common non-MOB targets for all networks.

3.231 We have set a five-hour interval between the MPL and EDL to be consistent with our RIIO-GD2 approach for Cadent networks. We consider this approach remains appropriate for Cadent London and SGN Southern in RIIO-GD3, based on historic network performance and to provide consistency with the other networks' non-MOB targets.

3.232 Both Cadent and SGN opposed our proposed common non-MOB targets. Cadent argued that its London network contains a high number of complex non-MOBs

which, while not meeting the definition of a MOB, share similar characteristics and supply restoration difficulties, skewing its annual average duration. It also said that inconsistencies in data quality across the GDNs mean that common targets calculated from aggregated sector data would disadvantage consumers by overlooking network-specific complexities, which could impact service quality. SGN similarly expressed concerns about inconsistent reporting practices undermining the validity of a common target. It also said that network-specific characteristics and cost variations affecting repair times had not been adequately considered, making a common target unachievable for its Southern network.

3.233 Having reviewed the GDNs' responses and historic performance data, we consider it appropriate to adjust the MPL and EDL targets for non-MOBs for Cadent London and SGN Southern. This is due to the prevalence of complex non-MOBs in the Cadent London and SGN Southern networks which present many of the same complexities as MOBs, but do not meet the MOBs definition set out in the RIGs.

Collaborative Streetworks ODI-F

Purpose: To incentivise the GDNs to collaborate with other utilities for the delivery of streetworks projects.

Benefits: To reduce the frequency and duration of streetworks by coordinating projects between the GDNs and other utilities. We also expect it to promote knowledge sharing amongst utilities on best practice.

Final Determinations summary

Design	Final Determination	Draft Determination
ODI type	Financial – reward only.	Decided in our SSMD.
Scope	Rewards are available across GB where: • a local, regional or transport authority meets the eligibility criteria and is appointed to carry out the central coordinator role for the area; and • the GDN submits estimated collaboration costs and delivers a minimum number of projects annually.	Same as FD.

Design	Final Determination	Draft Determination
Measurement	Number of minimum criteria and strategic criteria collaborative projects completed.	Same as FD.
Target	Cadent London and SGN Southern will have a minimum threshold of five projects per year before rewards are received. Other GDNs will not have a minimum threshold.	Change - a common minimum project threshold of five for all GDNs.
Incentive exposure	The following percentages of RoRE: • EoE: 0.27% • Lon: 0.26% • NW: 0.26% • WM: 0.26% • NGN: 0.26% • Sc: 0.27% • So: 0.25% • WWU: 0.27%	Change - updated the RoRE percentages to maintain equivalence with 0.5% of base revenue, in line with our SSMD.
Incentive value	Minimum Criteria: £95,000. Strategic Criteria: £160,000. 25/26 price base.	Change - updated to 25/26 prices.
Reporting	Annual reporting on the number and cost of projects through the RRPs.	Same as FD.
Applied to	All GDNs.	Same as FD.
Associated document	Collaborative Streetworks Governance Document.	Change - No document proposed at DD.

Final Determination rationale and Draft Determination responses

Scope

3.234 We have decided to implement our Draft Determinations proposal to roll out the Collaborative Streetworks ODI-F across GB. Under RIIO-GD2, this ODI-F was only available to networks operating in Greater London.

3.235 Under RIIO-GD3, the GDNs will only be able to access the ODI-F for regions within their networks where:

- a local, regional or transport authority is formally identified and appointed to carry out the central coordinator role for the area, meeting the defined eligibility criteria;
- the GDN submits estimated collaboration costs; and
- a minimum number of projects are delivered annually (applicable to Cadent London and SGN Southern only).

3.236 The central coordinator role and associated eligibility criteria will be set out in the Collaborative Streetworks Governance Document.

3.237 Nine of the ten respondents agreed with expanding the incentive, including all the GDNs, the Greater London Authority (GLA), Transport for West Midlands and Greater Manchester Combined Authority. A consumer group opposed the rollout, arguing it would reward BAU behaviour. We acknowledge this concern and agree that collaborative streetworks should become BAU as GDNs and other utilities embed collaborative working practices. As set out in our Draft Determinations, we expect the GDNs to have the maturity and processes in place to deliver both strategic and minimum criteria projects without the need for an ODI-F in future. This will enable a transition to an ODI-R in the next price control period. Nonetheless, stakeholder feedback indicates that collaborative streetworks are not yet BAU, and that an ODI-F remains necessary for RIIO-GD3.

3.238 We therefore consider it appropriate to extend the ODI-F across GB, given evidence that local authorities outside London view this as a priority and are both willing and able to take on the central coordinator role to facilitate greater collaboration between utilities.

3.239 SGN and WWU raised concerns about the feasibility of appointing a central coordinator, noting that access to the incentive will depend on engagement from the relevant local authority. We consider that the central coordinator role is crucial to ensure that the incentive delivers the benefits intended, particularly in the identification of strategic projects and the expediting of permitting applications. We therefore think it is appropriate that the incentive is only rolled out in regions where the local, regional or transport authority identify this to be a priority and are willing to provide resource to support it.

Target

3.240 We have decided to set a minimum threshold of five projects per regulatory year for Cadent London and SGN Southern. However, we will not set a minimum

threshold for other networks, which is a change from our Draft Determinations proposal.

3.241 Four stakeholders disagreed with our Draft Determinations proposal to apply a minimum threshold of five projects for all networks, arguing this could create an unnecessary barrier for networks establishing new collaboration processes. Two stakeholders supported the proposal, stating that a minimum threshold would help embed these processes as BAU. The GLA also suggested that the minimum threshold apply across the price control period, rather than annually.

3.242 As Cadent London and SGN Southern have significant experience in delivering collaborative projects, we will set a minimum threshold of five projects per regulatory year for these networks. While we understand that a price control period threshold could provide more flexibility for projects spanning regulatory years, we think that this approach could artificially limit the number of projects accessing the incentive. We have therefore decided to apply an annual threshold.

3.243 However, we acknowledge that minimum thresholds could make it harder for networks accessing the incentive for the first time. We therefore will not set thresholds for other networks. We also do not consider it appropriate to apply a minimum threshold to Cadent's East of England network given the low number of collaborative projects it has delivered in RIIO-GD2.

3.244 Our approach ensures that the GDNs with established processes and experience from RIIO-GD2 continue to embed collaborative streetworks, while removing barriers to entry for other GDNs accessing this incentive.

Incentive value

3.245 We have decided to set separate incentive rates for minimum and strategic projects. The GDNs will receive:

- £95,000 for each completed minimum project;[38] and
- £160,000 for each completed strategic project.[39]

3.246 The incentive values have been updated since our Draft Determinations to reflect 25/26 prices.

[38] The minimum criteria is that the streetworks project is: 0.2km minimum length; level 2 collaboration at a minimum (as defined in the GLA collaboration manual); fulfilled by a minimum of two collaborating utilities; a permanent solution, not a temporary fix; and completed by the end of RIIO-GD3.
[39] A strategic project is a project identified by the central coordinator as having strategic importance. These projects do not have a minimum length.

3.247 Two stakeholders disagreed with the incentive rates proposed in our Draft Determinations (£75,000 for minimum projects and £125,000 for strategic projects). SGN argued that the proposed incentive levels were insufficient to properly incentivise collaboration. National Grid Electricity Distribution (NGED) agreed with our proposed incentive rates for networks with established collaboration processes but argued that networks accessing the incentive for the first time should receive incentives equivalent to RIIO-GD2 levels of £305,000 per project.

3.248 We have set these rewards to cover the average cost of collaboration plus a small incentive equal to 50% of the social benefit provided by the average project in RIIO-GD2. We consider that this approach strikes the right balance – rewarding GDNs while ensuring that incentives do not exceed the wider benefits of collaboration. We do not consider it appropriate to set the incentive values at RIIO-GD2 levels for any networks, as the new rates are based on a more robust dataset. The RIIO-GD2 rate was based on a single pilot project, whereas the RIIO-GD3 values have been calculated using a more representative evidence base. In addition, we expect networks with experience in collaboration to share their learnings with others, as the GLA are doing with other local authorities. This knowledge sharing will help reduce missteps and wasted resource as networks develop their collaboration processes.

Reporting

3.249 GDNs will report annually through the RRPs on completed projects and associated collaboration costs. Central coordinators will also need to submit a verified list of completed projects with associated benefits of collaboration. These requirements will be set out in the Collaborative Streetworks Governance Document.

Associated document

3.250 Since our Draft Determinations proposal, we have decided to introduce the Collaborative Streetworks Governance Document, which will set out our expectations of networks and central coordinators accessing the incentive in RIIO-GD3. In addition to this, it will also provide basic guidance for central coordinators on the resources, tools and capabilities they will need to facilitate collaboration in their regions.

3.251 We will work with stakeholders to develop the Collaborative Streetworks Governance Document, which we will consult on early next year.

Close out of the Domestic Load Connections Allowance

3.252 We decided to remove the DLCA in our SSMD. The DLCA is a contribution under the GD price control towards the cost of installing gas connections from the main to a domestic premise. This policy has socialised the cost of laying the first 10 metres of pipe in public land and is set out in the GDNs' licences.[40] Its removal means that all domestic connection costs will be chargeable to the individual consumer requesting the connection from the start of RIIO-GD3.

3.253 We note that WWU continues to raise concerns regarding the removal of the DLCA. WWU's position is that the Gas Act 1986 does not allow the GDNs to charge for the cost of a connection, only for laying and supplying the pipe. It therefore argued that removing the DLCA would require an amendment to the Gas Act 1986, in addition to modifying its licence.

3.254 We maintain our view, as set out in the Draft Determinations, that modifying the GDNs' Gas Transporter licence is sufficient to enact this decision. The DLCA policy sits within the licence and does not require amendment to the Gas Act 1986.

[40] Gas Transporter licence, Standard Condition 4B: Connection Charging Methodology, paragraph 1.

4. Managing Uncertainty

Introduction

4.1 Business plans and price controls are based on a set of assumptions of what is required over the forthcoming period. There may be significant uncertainty over some of these assumptions, and where appropriate it may be better to use mechanisms that adapt certain elements of the price control during the period. These are referred to as UMs. As set out in the Overview Document, the UMs that we will use in RIIO-3 are volume drivers, re-openers, UIOLIs, pass-through, and indexation mechanisms.

4.2 This chapter sets out the UMs that will apply to all the GDNs during the RIIO-GD3 price control period. For details of the UMs that only apply to a single GDN, see the company annexes.

4.3 Table 12 and Table 13 outline the UMs that will apply for RIIO-GD3 and set out where you can find full details on each. UMs specific to a particular company are covered in that company's respective annex.

Table 12: Cross-sectoral UMs in RIIO-3

UM name	UM type	Sector(s)	Further detail
Business Rates (prescribed rates)	Pass-through	ET, GD, GT	Overview Document
Cost of debt indexation	Indexation	ET, GD, GT	Finance Annex
Cost of equity indexation	Indexation	ET, GD, GT	Finance Annex
Inflation Indexation of RAV and Allowed Return	Indexation	ET, GD, GT	Finance Annex
Ofgem licence fee costs	Pass-through	ET, GD, GT	Overview Document
Pension Scheme Established Deficit	Pass-through	ET, GD, GT	Finance Annex
Tax Review	Re-opener	ET, GD, GT	Finance Annex
Real Price Effects (RPEs)	Indexation	ET, GD, GT	Overview Document
Digitalisation	Re-opener	ET, GD, GT	Overview Document
Resilience	Re-opener	ET, GD, GT	Overview Document
Cyber Resilience	UIOLI and PCD	ET, GD, GT	Overview Document

UM name	UM type	Sector(s)	Further detail
NIS-R Cyber Resilience	Re-opener	ET, GD, GT	Overview Document
Co-ordinated Adjustment Mechanism (CAM)	Re-opener	ET, GD, GT	Overview Document
Decarbonisation and Environmental Policy (DEP)	Re-opener	ET, GD, GT	Overview Document
Small Decarbonisation Projects (SDP)	Re-opener	GD, GT	Overview Document
Decarbonisation Project Development (DPD)	UIOLI	GD, GT	Overview Document

Table 13: GD-specific UMs in RIIO-GD3

UM name	UM type	Applied to	Further detail
Biomethane Connections	UIOLI	GD, GT	This document and GT Annex
Heat Policy	Re-opener	GD	This document
HSE Policy	Re-opener	GD	This document
Complex Distribution Systems	Re-opener	GD	This document
Tier 2A Mains and Services Replacement	Volume driver	GD	This document
Diversions and Loss of Development Claims	Re-opener	GD	This document
Safety Disconnections	Volume driver	GD	This document
New Large Load Connections	Re-opener	GD	This document
General Reinforcement	Re-opener	GD	This document
Specified Streetworks Costs	Re-opener	GD	This document
Pension deficit charge adjustment	Pass-through	GD	This document
Third-party damage and water ingress	Pass-through	GD	This document
Shrinkage	Pass-through	GD	This document
NTS exit capacity	Pass-through	GD	This document
Theft of gas (supplier responsible)	Pass-through	GD	This document
Central Data Service Provider (CDSP) Costs	Pass-through	GD	This document

UM name	UM type	Applied to	Further detail
Miscellaneous	Pass-through	GD	This document
Supplier of Last Resort (SoLR)	Pass-through	GD	This document
London Subways and Tunnels	Re-opener	Cadent	Cadent Annex
South London Medium Pressure	Re-opener	SGN	SGN Annex

Infrastructure fit for a low-cost energy transition

Biomethane Connections UIOLI

Purpose: To facilitate biomethane production by allowing funding to address capacity constraints arising from biomethane entry connections.

Benefits: This mechanism will reduce the cost of biomethane connections thereby encouraging more producers to connect to the gas distribution network.

Final Determinations summary

Design	Final Determination	Draft Determination
UM type	UIOLI.	Same as FD.
Scope	Activities to address capacity constraints associated with biomethane entry connections.	Change - capex costs associated with new biomethane connections, if no government funding had been received.
Funding level	£20m per network over RIIO-GD3, and an individual funding cap of £2m per biomethane connection.	Change - project cap changed from £1m per connection.
Reporting	Annual reporting on projects and costs through the RRPs.	Same as FD.
Applied to	All GDNs.	Same as FD.
Associated document	Biomethane UIOLI Governance Document.	Change - no associated document proposed.

Final Determination rationale and Draft Determination responses

UM type

4.4 We have decided to introduce a UIOLI to support biomethane connections, as proposed in our Draft Determinations. All twelve stakeholders who commented on this agreed with the need for a mechanism to support biomethane uptake,

referencing the role for biomethane highlighted in NESO's June 2025 Future Energy scenarios[41] and the Department for Energy Security and Net Zero's (DESNZ's) Clean Flexibility Roadmap.[42] We continue to consider the use of a UIOLI is appropriate, because it gives GDNs quick and flexible access to funding when they need it.

4.5 We are also introducing a similar UIOLI mechanism for National Gas, which is set out in Chapter 4 of the GT Annex.

Scope

4.6 We have decided to change the scope of the UIOLI from our Draft Determinations proposal. It will now allow funding for activities to address capacity constraints arising from biomethane entry connections. Previously it was proposed to cover capex for new connections where government funding had not been received.

4.7 Eight of the twelve respondents, including all the GDNs, considered that the scope proposed in our Draft Determinations would not sufficiently encourage biomethane connections, and that excluding projects supported by the Green Gas Support Scheme (GGSS) would severely limit eligibility. These stakeholders highlighted that the primary challenge in connecting biomethane to the distribution network is capacity constraints, rather than connection costs.

4.8 Having considered the feedback, we agree it is appropriate to change the scope of the UIOLI to address capacity constraints. This change in scope removes any conflict with the GGSS. As a result, the allowance may be used to support projects associated with GGSS-supported sites as well as sites already connected to the distribution network that are looking to expand.

Divergence with the scope of the Gas Transmission Biomethane UIOLI

4.9 The new scope means that there is a divergence between this UIOLI and the equivalent UIOLI in GT, which will still fund capex and opex costs associated with connections where no government funding has been received. We have concluded this divergence is necessary because the drivers and blockers of biomethane connections are sector specific:

- In GD, stakeholders were clear on the need for support in funding network reinforcement costs, which biomethane connections do not incur in GT.

[41] Future Energy Scenarios (FES) | National Energy System Operator
[42] Clean flexibility roadmap - GOV.UK

- Stakeholder feedback made clear that no connections outside of the GGSS are expected in GD, so there is no clear funding gap that the proposed scope in our Draft Determinations was closing. This differs from GT, where National Gas anticipates that connection applications will be submitted regardless of government funding received. The current GGSS covers all connection costs, and the GT biomethane mechanism will match this for connections outside the GGSS.

4.10 Whilst by default, we would want to have consistency in the scope of biomethane UIOLI mechanisms across the gas sectors, we are convinced by stakeholder feedback on the need to target these to sector-specific blockers. We have considered whether our approach in RIIO-3 will lead to distortions and have not seen evidence that it will do so.

4.11 In engagement following our Draft Determinations, Cadent proposed that the UIOLI scope should be expanded to cover all entry gases. We have not done so; we want to ensure this mechanism focuses on supporting biomethane connections. We do not consider it appropriate to incentivise new natural gas connections, whilst support for hydrogen should be sought through the government's hydrogen business models, which are designed specifically for this purpose.

Funding level and review mechanism

4.12 Each network will have a RIIO-GD3 UIOLI allowance of £20m, with £4m available in each year. Any unused funding will be rolled into following years. There will be an individual cap of £2m per biomethane connection. We have engaged closely with government, given that it is actively considering the future policy framework for biomethane in the context of the current GGSS scheme closing to new applications in March 2028.[43] We may review the appropriateness and size of the UIOLI mechanism if there are changes to government funding schemes for biomethane or significant market or technological developments.

4.13 Ten of the twelve stakeholders who responded on this topic agreed with the size of the allowance. However, Cadent argued that the allowance should be larger because it expects it to be exhausted quickly. It also suggested including a trigger to enable the UIOLI to be increased if it nears full utilisation and, since Draft Determinations, has requested the ability to share allowances across its networks

[43] The government expects to publish a consultation on a holistic future policy framework for biomethane in this financial year 2025/26, to follow the current GGSS.

based on demand. Cadent's ISG stated that the allowances should reflect the network size and the likelihood of new biomethane connections.

4.14 We consider that a common allowance size is appropriate as at this stage. We accept that allowances based on a network's biomethane potential is something for greater exploration in the future, but at this stage there wasn't the evidence and analysis supporting a substantive proposal for us to approve. In future such a scheme, if developed, would need to fit with wider government biomethane policy. However, our ability to review the UIOLI mechanism would enable us to increase its size, if appropriate, to respond to changes to government biomethane funding or significant market or technological developments.

4.15 We disagree with Cadent's proposal to share allowances between networks. We think that only providing this flexibility for GDNs operating multiple networks could give them disproportionate access to funding compared to single-network GDNs. Furthermore, we do not consider it appropriate for consumers in one network to subsidise work in another without a nationwide scheme to share costs equitably across all GB consumers.

4.16 Our decision to introduce an individual funding cap of £2m per biomethane connection is an increase from the £1m cap proposed in our Draft Determinations. Six stakeholders stated that the proposed £1m cap would be insufficient to cover reinforcement project costs. We have therefore decided to increase the project cap based on our revised scope and the evidence provided. The £2m cap is informed by analysis undertaken by Cadent as part of its biomethane proposals, which indicated that this level of funding represents efficient costs for an average-sized biomethane producer connecting to the distribution network.

4.17 We note that the varied connection procedures across the GDNs have been highlighted by biomethane producers as a significant barrier for entry. We encourage the GDNs to collectively engage with the biomethane industry to streamline and align connection processes to remove this barrier. We will monitor progress of this alignment through the EAP (see Chapter 3 for further detail on the EAP).

Associated document

4.18 We have decided to introduce the Biomethane UIOLI Governance Document to help the GDNs understand the scope and requirements of the UIOLI. Through developing this, we will continue to work with the GDNs to ensure that there is no conflict between the licence and the GDN's connection charging methodologies.

Heat Policy Re-opener

Purpose: To enable us to increase or decrease allowances as appropriate in response to changes to specific regulations and connection charging methodologies that support the transition to low carbon heat.

Benefits: RIIO-GD3 allowances and outputs reflect changes to specific regulations and connection charging methodologies to support the timely decarbonisation of heat.

Final Determinations summary

Design	Final Determination	Draft Determination
UM type	Re-opener.	Decided in our SSMD.
Scope	The re-opener can be triggered in response to a government decision on hydrogen for heat or changes to specific regulations and connection charging methodologies that support the transition to low carbon heat. It enables both upward and downward adjustments.	Same as FD.
Authority triggered	Yes, Authority trigger only.	Decided in our SSMD.
Materiality threshold	Default materiality threshold (see Chapter 6 of the Overview Document).	Same as FD.
Applied to	All GDNs.	Decided in our SSMD.

Final Determination rationale and Draft Determination responses

Scope

4.19 We have decided to maintain the scope proposed in our Draft Determinations, which allows any outputs to be changed and costs to be adjusted up or down in response to changes to:[44]

- government's hydrogen for heat decision, which is expected in 2026;
- connection charging arrangements for distributed entry connections or domestic premises; and
- requirements on the quality and composition of gas.

[44] This includes cases where such obligations are introduced or clarified retroactively, requiring the networks to adjust costs in response to those changes.

4.20 We received eight responses on this topic in our Draft Determinations, which were all supportive of the proposed parameters of the Heat Policy Re-opener.

4.21 SGN asserted that any heat policy decision will likely affect all gas customers, including industrial and commercial (I&C) users, who may be more sensitive than domestic customers to changes in gas composition. It was concerned that the re-opener scope does not explicitly reference I&C customers. We confirm that the Heat Policy Re-opener is intended to apply to both domestic and non-domestic consumers. This is in line with the relevant provisions set out in the definition of Heat Policy Area in the licence.

Secure and resilient supplies

HSE Policy Re-opener

Purpose: To provide the GDNs with the opportunity to recover costs resulting from changes in HSE policy that lead to a material change in repex or legacy disconnections costs or workloads.

Benefits: Provides appropriate protection for consumers and GDNs by enabling upward or downward adjustments to allowances and outputs in response to changes in specific HSE policy areas.

Final Determinations summary

Design	Final Determination	Draft Determination
UM type	Re-opener.	Decided in our SSMD.
Scope	Two triggers: 1) Specified changes to repex costs resulting from a change to HSE policy; and 2) Specified changes to programmes of work to remediate legacy GSIUR disconnections as agreed in writing by the HSE.	Change - added new legacy GSIUR disconnections trigger.
Authority triggered	Yes.	Same as FD.
Network company re-opener windows	For the first trigger there are two re-opener windows:	Change – addition of one re-opener window for the new second trigger.

Design	Final Determination	Draft Determination
	• 1 October 2027 - 7 October 2027 • 1 October 2029 - 7 October 2029. For the second trigger there is one re-opener window: • 1 October 2027 - 7 October 2027.	
Materiality threshold	Default materiality threshold (see Chapter 6 of the Overview Document).	Same as FD.
Applied to	All GDNs.	Decided in our SSMD.

Final Determination rationale and Draft Determination responses

Scope

4.22 We have amended the licence to clarify the definition of 'Repex Related HSE Policy Area' and to provide specific details about the type of evidence the GDNs need to submit to prove there has been a change in HSE policy. We have also refined the definition of 'Repex', removing the requirement that a replacement pipe needs to be plastic. This is to reflect that, in cases where pipes need replacing, the new pipe may not always be plastic – for instance, when replacing MOBs risers.

4.23 We have decided to add a second trigger to this re-opener to account for work to remediate legacy GSIUR disconnections, in addition to the trigger for changes to repex-related HSE policies.

4.24 In their responses to our Draft Determinations, stakeholders raised a number of concerns with this re-opener, which we address below.

Clarifying the scope of 'Repex Related HSE Policy' changes

4.25 We have decided to clarify what we mean by 'Repex Related HSE Policy' in the licence following stakeholder feedback.

4.26 In SGN's response to our initial licence consultation,[45] it stated that the definition of Repex Related HSE Policy area was currently limited to changes in government policy, and that it should include reference to updated HSE guidance, interpretation or instruction.

[45] RIIO-3 initial licence consultation | Ofgem

4.27 Currently, Repex Related HSE Policy means

> *'a change in government policy related to Repex including under any of the following pieces of legislation:*
>
> 1. *the Pipeline Safety Regulations 1996 Regulation 13A;*
> 2. *the Gas Safety Management Regulations 1996;*
> 3. *the Pressure System Safety Regulations 2000; and*
> 4. *the Health and Safety at Work etc Act 1974.'*

4.28 We have decided to expand this definition, so that Repex Related HSE Policy Area also means an established HSE enforcement policy related to repex. We think that changes to an established HSE enforcement policy – directed in writing by the HSE – which materially impact repex costs, should be covered under the scope of this re-opener. This is because we accept that, practically, the impact of legislative change is fundamentally similar to a formal change to an established enforcement policy in relation to repex.

4.29 However, we have decided not to expand the scope to include changes in 'interpretation', or 'guidance' as suggested by GDNs as these are very broad and difficult to evidence.

4.30 We are also clarifying expectations around the evidence which needs to be provided by GDNs to prove this change. We will require evidence of a notice in writing – either a letter from HSE to the GDNs or a formal notice served under the Health and Safety at Work etc Act 1974 – of a change to a Repex Related HSE Policy Area, or evidence of a notice in writing from the HSE of a change to an Approved Programme. A requirement to submit a notice in writing holds the GDNs and the HSE to a good standard of evidence and accountability for changes in policy which result in additional material costs.

MOBs

4.31 We have decided to make a minor amendment to the definition of repex within the licence to ensure that it covers the replacement of polyethylene (PE) risers.

4.32 All GDNs are receiving allowances to replace steel risers on MOBs, where justified on a condition basis. These workloads are funded through NARM. You can find more information about this in Chapter 5 paragraphs 5.365 - 5.376, and the engineering appendices in the company annexes.

4.33 In its response to Draft Determinations, WWU highlighted that the definition of repex excludes some MOB related work. We acknowledge that the previous definition of repex specified that pipes would be replaced with plastic, which is not always the case, and agree that changes in HSE policy relating to PE riser replacement would be appropriate to fund through this re-opener. We have therefore amended this definition, removing the need for the replacement pipe to be made of plastic to ensure it covers PE riser replacement.

4.34 The GDNs also pointed towards other uncertainties around MOBs opex costs. As explained in the section below on expanding the scope beyond repex, we consider that including opex in this re-opener is inconsistent with the other sectors where increases in opex resulting from HSE policy changes would be included in existing budgets. The GDNs also did not provide evidence that these costs will be material enough to warrant a re-opener.

Legacy 'Gas Safety (Installation and Use) Regulations' (GSIUR) disconnections

4.35 We have decided to add a second trigger to this re-opener to account for work to remediate legacy GSIUR disconnections in response to stakeholder feedback.

4.36 The GDNs perform safety-related disconnections on disused pipes either on behalf of suppliers, or to make safe a disconnection where a supplier has failed to meet its duties under GSIUR 1998. While these disconnections are driven by the GSIUR, it is our understanding that the GDNs' work is performed in order to comply with the Pipeline Safety Regulations 1996, and the GDNs currently claim the costs through their maintenance allowances.

4.37 Legacy GSIUR disconnections are disconnections undertaken by GDNs since 1998 using a standard industry practice of closing and sealing an external emergency control valve (ECV) at the end of the service pipe. However, the HSE has indicted that it does not consider this type of connection sufficiently safe in the long term and is therefore expected to direct the GDNs to revisit these disconnections and remediate them to make them permanently safe. This is not the result of a change in HSE legislation but rather a clarification of the standard required for the GDNs to be in compliance with the Pipeline Safety Regulations 1996. If enacted, this will result in a large and material workload increase.

4.38 An ISG, Cadent and SGN all argued for the inclusion of legacy GSIUR disconnections in this re-opener, which we had rejected in our Draft Determinations.

4.39 In our Draft Determinations, we said that we do not consider that consumers should pay inefficient costs to remediate work that the GDNs have not delivered to an appropriate standard. However, following further engagement with the GDNs and HSE, we are satisfied that this workload is resulting from a clarification in the HSE's position and it is reasonable that the GDNs had not been performing disconnections to this standard in the past. The GDNs have now evidenced that this is a one-off programme of work which they could not have accounted for in their business plans. We have therefore revised our Draft Determinations position and will include programmes to remediate legacy GSIUR disconnections within this re-opener.

Extending the scope beyond repex

4.40 We have decided not to expand the scope of the re-opener beyond repex (except for the decision on legacy GSIUR disconnections set out above). When this re-opener was introduced in RIIO-GD2, it was intended to account for any changes to the HSE's IMRRP. We have decided to retain it as a re-opener to account for changes to the GDNs repex programmes which are mandated by HSE.

4.41 In response to our Draft Determinations, NGN and WWU called for broader coverage for other HSE-driven changes beyond repex. The indication was that the re-opener should cover all areas where HSE policy or legislation might bring about a material change.

4.42 In response to our initial licence consultation, Cadent disagreed with the scope of this re-opener, saying that it should apply to any changes in cost driven by HSE legislation, policy or approach to enforcement which the GDNs are required to comply with. NGN said the re-opener should be broad enough to cover all areas of totex impacted by HSE policy, given its power to implement changes across areas under capex and opex too. SGN requested that references to repex should be changed to cover all of totex.

4.43 HSE oversight extends beyond the repex programme, and into other areas of the GDNs' work. However, this is the same across the other sectors, where the HSE may change policy and impose a new safety requirement on any company. We disagree that this re-opener should account for any HSE policy change which impacts capex, opex or totex. This would be inconsistent with the other sectors where such changes to costs are covered through baseline allowances.

4.44 Repex remains a large area of spending unique to the GD sector and driven by the HSE, therefore we consider it is still appropriate to have a re-opener to account for material changes to that programme.

Complex Distribution Systems (CDS)

4.45 As stated in our Draft Determinations, we do not consider that CDS repex work falls under the scope of this re-opener.

4.46 In its response to Draft Determinations, SGN sought coverage for CDS either under this re-opener or a separate re-opener. We have now decided to introduce a new common re-opener for CDS, which is outlined later in this chapter.

Network company re-opener windows

4.47 We have decided on two re-opener windows for the trigger relating to repex costs resulting from a change to repex related HSE policy:

- 1 October 2027 - 7 October 2027; and
- 1 October 2029 - 7 October 2029.

4.48 This is a change from the position in our Draft Determinations. This decision follows a holistic consideration of the number and timing of re-opener windows across the full suite of re-opener mechanisms in all three sectors. More information about the default re-opener design parameters can be found in Chapter 6 of the Overview Document. In its response to Draft Determinations, Cadent agreed with the re-opener windows in relation to this trigger. No other stakeholders commented on this.

4.49 We have decided that there will be a single re-opener window for the legacy GSIUR disconnections trigger, 1 October 2027 - 7 October 2027. We have chosen to only allow one re-opener window for this workload because we want to benchmark costs from GDNs to ensure we only allow efficient costs. This requires all GDNs to use the same window. Our Draft Determinations had not included this trigger, so this is an additional re-opener window.

Materiality threshold

4.50 We have decided to retain the materiality thresholds of 0.5% of ex ante base revenue. Cadent agreed with the materiality threshold in its Draft Determinations response. No other stakeholders commented on this.

Complex Distribution Systems Re-opener

Purpose: To fund condition-based replacement of assets within CDS.

Benefits: To protect consumers and GDNs by adjusting allowances to include repex programmes for CDS, once the scope and costs for these are better understood.

Final Determinations summary

Design	Final Determination	Draft Determination
UM type	Re-opener.	Change - no mechanism proposed in our DD.
Scope	To fund costs relating to the condition-based replacement of assets within CDS.	Change - no mechanism proposed in our DD.
Authority triggered	No.	Change - no mechanism proposed in our DD.
Network company re-opener windows	One re-opener window: 1 - 7 October 2028.	Change - no mechanism proposed in our DD.
Materiality threshold	Default materiality threshold (see Chapter 6 of the Overview Document).	Change - no mechanism proposed in our DD.
Applied to	All GDNs.	Change - no mechanism proposed in our DD.

Final Determination rationale and Draft Determination responses

UM type and scope

4.51 We have decided to introduce a new common re-opener to fund condition-based replacement of assets within CDS. CDS are defined as

> *MOBs which consist entirely of industrial and/or commercial units that do not meet the classification of either High-rise or Medium rise buildings. They are a multi-occupancy commercial premise such as a school, hospital or shopping centre where:*
>
> - *There are extended lengths of pipework installed on, in, along, or over the building, and;*
> - *The system supplies three or more-metre points.'*

4.52 Assets within CDS which may be replaced could include risers, laterals, meter banks and manifolds. As part of their re-opener application, GDNs will need to provide condition data to justify replacements.

4.53 This is a change from the proposal in our Draft Determinations, which was to fund CDS repex through NARM.

4.54 In response to our Draft Determinations, all four GDNs said a re-opener was a preferable method of funding CDS work. They cited the lack of a suitable risk model in NARM, and that a re-opener was more flexible for variable and atypical CDS workloads. We agree that CDS assets are unique and not currently covered

under the NARM methodology. Inclusion in NARM would require significant additional work to ensure risk outputs are robust.

4.55 We have therefore decided to introduce a new common re-opener for CDS for RIIO-GD3, with the ambition to work towards including CDS into the NARM methodology for the next price control. More information on NARM is in Chapter 4 of the Overview Document.

4.56 We note that WWU provided sufficient justification for its proposed CDS work so has been awarded an allowance in baseline to deliver CDS repex (see WWU Annex). SGN also submitted CDS workloads, but this was disallowed through engineering assessment and can instead be covered by this re-opener. Cadent and NGN did not propose any work on CDS in their business plans.

Re-opener triggers

4.57 We have decided that there will be one network company re-opener window. We have set the re-opener trigger window as 1 October 2028 - 7 October 2028. We consider it is appropriate to have a window mid-way through the price control to allow the GDNs time to develop their CDS programmes.

4.58 We have decided not to include an Authority trigger for this re-opener. We think having one re-opener window will be sufficient given there are no legislative changes expected in this area, and the GDNs will have sufficient time to prepare for the re-opener window.

Materiality threshold

4.59 We have decided to use the default materiality threshold of 0.5% of ex ante base revenue, as set out in Chapter 6 of the Overview Document. We have not had any evidence to suggest there is an argument for deviating from the default materiality threshold in this case.

Tier 2A Mains and Services Replacement Volume Driver

Purpose: To fund mains replacement for mandatory Tier 2A mains and associated services.

Benefits: This volume driver adjusts allowances based on the actual workloads delivered, protecting customers and GDNs from incorrect volume assumptions and ensuring GDNs are funded to undertake any additional Tier 2A mandatory repex which emerges during the price control period.

Final Determinations summary

Design	Final Determination	Draft Determination
UM type	Volume Driver.	Decided in our SSMD.
Scope	To fund mains and services replacement for Tier 2 mains above a risk-action threshold (otherwise known as Tier 2A mains).	Decided in our SSMD.
Volume measurement	Number of Tier 2A mains and associated services replaced.	Decided in our SSMD.
Unit costs	Network specific unit costs for different diameter bands.	Change - no costs proposed at DD.
Ability to change during RIIO-3 costs	No.	Same as FD.
Reporting	Annual reporting through RRPs.	Same as FD.
Applied to	All GDNs.	Same as FD.

Final Determination rationale and Draft Determination responses

UM type

4.60 We have decided that a volume driver remains an appropriate mechanism to fund Tier 2A workloads in RIIO-GD3, as set out in our SSMD.

4.61 Four stakeholders agreed with using a volume driver, saying it accounts for the uncertainty in workload. WWU disagreed with the use of a volume driver, citing the complexity and uniqueness of Tier 2A work. It suggested that a unit cost approach risks penalising either consumers or networks, and that a re-opener mechanism without a materiality threshold would be better.

4.62 We think that using a volume driver is appropriate to ensure that consumers only pay for the workload delivered (noting the close out provisions in paragraph 4.68). It also means GDNs can begin delivering the workload from the start of the price control, and changes to the Tier 2A workload during the period can be accommodated more readily than through a re-opener mechanism.

Unit costs and Tier 2A risk-action threshold methodology

4.63 We have set network specific unit costs for different diameter bands based on resubmitted workloads the GDNs sent to us in July. These are set out in the company annexes.

4.64 In our Draft Determinations, we highlighted that GDNs were changing their Tier 2A risk-action thresholds methodologies as a result of HSE's updated enforcement policy for the IMRRP. We have continued to engage to better understand the GDNs' approach to setting Tier 2A risk-action thresholds, and the HSE's approach to approving these methodologies.

4.65 Our current understanding of how the GDNs' methodologies have changed since RIIO-GD2 is:[46]

- Cadent - no change to its methodology as it changed part way through RIIO-GD2. Some updates to coefficients in the Mains Replacement Prioritisation System (MRPS) model as with other GDNs.
- NGN - still in development, but adding population data.
- WWU - bespoke pipe approach.
- SGN - align thresholds/approach with Tier 1.

4.66 The GDNs' methodologies are not consistent. However, we have not found a way of successfully applying a consistent methodology for this price control, and consider the resultant workloads are proportionate to the size of the networks. Nonetheless, we want to ensure there is greater consistency between GDNs in future price controls. Paragraphs 3.87 to 3.89 earlier in this document highlight the ways we are planning to achieve this ahead of RIIO-GD4.

4.67 The draft updates to the risk-action threshold methodologies have resulted in an increase in Tier 2A workload across all GDNs, with the most notable increases in Cadent London and SGN Southern. Once the methodologies are approved by HSE, the GDNs' Tier 2 workload which falls above its risk-action threshold becomes mandatory to replace. We therefore think it is appropriate to fund these workloads.

4.68 At the time of publication, none of the GDNs' Tier 2A risk-action threshold methodologies have been approved by the HSE. However, we consider that we have sufficient information to set unit costs based on both historical data and the workloads submitted for the GDN's revised Tier 2A programmes, which assume HSE approval of their updated draft methodologies. We do not think that potential adjustments to workloads following HSE's approval will materially impact the unit costs, and therefore we think the volume driver is appropriate for use in RIIO-

[46] These are high level summaries, which may have changed at the point where the GDNs programmes are approved by HSE.

GD3. However, given the uncertainty surrounding the HSE's approval of the methodologies, we reserve the right to review the mechanism through the RIIO-GD3 close out process if actual costs increase by 0.5% of totex, or greater.

Diversions and Loss of Development Claims Re-opener

Purpose: Enables the GDNs to recover costs related to diverting and rerouting the network that could not be recovered from third parties.

Benefits: To protect consumers and the GDNs from uncertain volumes and scope of diversion works, if costs cannot be recovered from third parties.

Final Determinations summary

Design	Final Determination	Draft Determination
UM type	Re-opener.	Decided in our SSMD.
Scope	Costs for: (i) non-recoverable diversion costs or the costs of reasonable alternative solutions that avoid diversion costs; (ii) loss of development claims; or (iii) costs of diverting gas assets due to adverse environmental factors.	Same as FD.
Authority triggered	No.	Same as FD.
Network company re-opener windows	One re-opener window: 1 April 2028 - 7 April 2028.	Change - one window of 25 January 2029 - 31 January 2029.
Materiality threshold	Default materiality threshold (see Chapter 6 of the Overview Document).	Same as FD.
Applied to	All GDNs.	Decided in our SSMD.

Final Determination rationale and Draft Determination responses

Scope

4.69 We have decided to keep the scope of this reopener the same as in RIIO-GD2. It will enable the GDNs to recover costs for:

- non-recoverable diversion costs or the costs of reasonable alternative solutions that avoid diversion costs;
- loss of development claims; and
- costs of diverting gas assets due to adverse environmental factors.

4.70 In their Draft Determinations responses, all the GDNs said that this re-opener worked well in RIIO-GD2 and will still be needed to fund reactive diversions work for RIIO-GD3. SGN suggested expanding the scope to specifically include overbuilds. We have not changed the scope of the re-opener, as we consider that the existing scope allows for funding of diversion costs in relation to overbuilds.

Re-opener triggers

4.71 We have decided that the GDNs will have a single opportunity to trigger the re-opener between 1 April 2028 - 7 April 2028. Additional material costs incurred after this window may be considered as part of the RIIO-GD3 close out, if appropriate. This re-opener will not be Authority triggered.

4.72 We have changed the trigger window from our Draft Determination proposal following a holistic consideration of the number and timing of re-opener windows across the full suite of re-opener mechanisms in all three sectors. More information about the default re-opener design parameters can be found in Chapter 6 of the Overview Document.

4.73 Cadent requested that its licence explicitly confirm that uncertain costs can be recovered through the RIIO-GD3 close out process. No other stakeholders commented on this. We will take this into account when developing the RIIO-GD3 close out methodology, if material additional costs have arisen, but we do not consider it necessary to reflect this in the licence at this stage.

Materiality threshold

4.74 We have decided to keep the materiality threshold which was presented in our Draft Determinations at 0.5% of ex ante base revenue - in line with the default set out in Chapter 6 of the Overview Document. No stakeholders commented on this in response to our Draft Determinations.

High quality of service from regulated firms

Safety Disconnections Volume Driver

Purpose: To fund disconnections carried out under the Gas Installation (Safety and Use) Regulations 1998 by adjusting cost allowances to reflect differences between outturn workloads and baseline forecasts during RIIO-GD3.

Benefits: To protect consumers and GDNs by adjusting allowances based on the actual workloads delivered, because of the uncertainty as to the volumes of safety disconnections.

Final Determinations summary

Design	Final Determination	Draft Determination
UM type	Volume Driver.	Same as FD.
Scope	To fund disconnections carried out under the GSIUR. Enables upwards and downwards adjustments of allowances to reflect differences between outturn workloads and baseline forecasts during RIIO-GD3.	Change - legislation updated to more accurately reflect workload drivers.
Volume measurement	Number of 'simple' and 'complex' disconnections completed.	Change - number of disconnections.
Unit costs	Network specific unit costs for 'simple' and 'complex' disconnections.	Same as FD.
Reporting	Annual reporting through the RRPs.	Same as FD.
Applied to	All GDNs.	Same as FD.

Final Determination rationale and Draft Determination responses

UM type

4.75 We have decided to implement this volume driver for safety-driven disconnections in RIIO-GD3. It will allow for the adjustment of cost allowances if outturn workloads differ from forecasts.

4.76 All eight respondents agreed that, given the uncertainties around the volumes of disconnections, a volume driver would be appropriate to ensure the GDNs have adequate funding for this activity. We agree and have therefore decided to implement this volume driver.

Scope, volume measurement and reporting

4.77 We have decided to implement our Draft Determinations proposal that this volume driver will enable upwards and downwards adjustment of allowances for new safety disconnections carried out by the GDNs under GSIUR 1998. This is a change from our Draft Determinations where the volume driver was linked to disconnections carried under Pipeline Safety Regulations. Following further engagement with the GDNs and HSE we have decided that GSIUR 1998 is the driver of these disconnections.

4.78 Funding will be provided for each new simple and complex disconnection carried out by the GDN. A simple disconnection is defined as a disconnection that only involves isolating the gas service at the ECV or at the higher external termination

(HET) point which is typically at the street or external service pipes, without excavation. Complex disconnections are those that are fully disconnected at the main which includes excavation in the public highway. GDNs will report volumes annually through the RRPs.

4.79 Cadent, WWU and SGN requested to expand the scope of the volume driver to include legacy GSIUR disconnections. These are disconnections that have previously been undertaken, but which are expected to require remediation following HSE direction. However, the identification and surveying required for remediation means that the unit costs will likely be materially different. We will therefore not include legacy GSIUR disconnections in this volume driver. Instead, we have added a trigger to the HSE Policy re-opener to allow the GDNs to request funding for the remediation of legacy GSIUR disconnections. Please see paragraphs 4.35 to 4.38 for details on this decision.

4.80 This volume driver is specific to GSIUR disconnections and will adapt if disconnection processes or obligations change following our ongoing review of disconnections.[47] We consider that this design ensures that the GDNs will have the necessary funding to meet their obligations while remaining flexible and not constraining decisions arising from our review. This decision does not prejudge the outcome of our review.

Unit costs

4.81 We have decided to set network specific unit costs for simple and complex disconnections, as set out in Table 14.

Table 14: Safety Disconnections Volume Driver unit costs

GDN	**Simple Disconnection Unit Cost (£)**	**Complex Disconnection Unit Cost (£)**
EoE	150	1,485
Lon	153	1,755
NW	181	1,577
WM	143	1,532
NGN	421	693
Sc	181	1,414
So	364	2,420

[47] Request for Information: Gas Disconnections Framework Review

GDN	Simple Disconnection Unit Cost (£)	Complex Disconnection Unit Cost (£)
WWU	440	1,111

4.82 In our Draft Determinations, we said that we would work with the GDNs to get better data to determine an appropriate unit cost. Following a Request for Information, we have received additional data which showed a disparity in costs between simple and complex disconnections. To address this, we consider it appropriate to set separate unit costs for simple and complex disconnections. This approach will ensure funding levels remain appropriate if actual ratios differ from forecasts.

4.83 Our Draft Determinations proposed setting network-specific unit costs, covering labour and materials but excluding overheads. All five stakeholders who responded regarding unit costs agreed that network-specific unit costs are appropriate, highlighting the operational and geographical differences between the GDNs.

4.84 However, after reviewing the data provided in response to our Request for Information, we have decided to include overheads in the unit costs. These costs were ringfenced and quantifiable, giving us confidence in their inclusion.

4.85 WWU requested that the unit cost covers the cost of making a pipe safe at the main to ensure adequate funding if HSE mandates this approach moving forward. The complex unit cost has been set at a level that will cover this cost.

4.86 Cadent requested that the unit costs include streetworks costs. We have not included streetwork costs in the unit costs because they are already provided for in baseline allowances, with the Specified Streetworks Costs Re-opener available if additional funding is required.

New Large Load Connections Re-opener

Purpose: Enable the GDNs to recover costs incurred from network reinforcements required by new large load connections, eg power stations, distilleries, new industrial developments and new housing estates.

Benefits: To protect consumers and GDNs by adjusting allowances based on the actual workloads delivered, as connection numbers are largely driven by customers and therefore uncertain and difficult to forecast.

Final Determinations summary

Design	Final Determination	Draft Determination
UM type	Re-opener.	Decided in our SSMD.
Scope	Costs relating to: • network reinforcements required by new large load connections; or • significant alterations to an existing connection that are subject to the Economic Test, and for the purpose of: (1) entering gas onto the distribution network; or (2) offtaking gas from the distribution network with a maximum offtake capacity in excess of 1,500 scm/h.	Change - we proposed the re-opener could fund general reinforcement activities within the existing scope.
Authority triggered	No.	Same as FD.
Network company re-opener windows	One re-opener window: 1 October 2028 - 7th October 2028	Change - one window of 25 January 2029 - 31 January 2029.
Materiality threshold	Default materiality threshold (see Chapter 6 of the Overview Document).	Same as FD.
Applied to	All GDNs.	Same as FD.

Final Determination rationale and Draft Determination responses

Scope

4.87 We have decided this re-opener will continue to fund new large load connections using the same scope as set out in RIIO-GD2. This includes including retaining the demand threshold within the definition of large load connection for offtaking gas.

4.88 In our Draft Determinations, we proposed that the re-opener could also fund general reinforcement activities under the existing scope. However, all the GDNs argued that general reinforcement work would not meet the 1,500 scm/h capacity threshold nor the materiality threshold of the New Large Load Connections Re-opener. In response to this feedback, we will not fund general reinforcement activities through this re-opener. Instead, we have introduced a new General Reinforcements Re-opener, which is outlined later in this chapter.

Re-opener triggers

4.89 We have decided that the GDNs will have a single opportunity to trigger the re-opener between 1 October 2028 - 7 October 2028. Additional material costs incurred after this window may be considered as part of the RIIO-GD3 close out, if appropriate. This re-opener will not be Authority triggered. No stakeholders commented on this in response to our Draft Determinations.

4.90 We have changed the trigger window from our Draft Determination proposal following a holistic consideration of the number and timing of re-opener windows across the full suite of re-opener mechanisms in all three sectors. More information about the default re-opener design parameters can be found in Chapter 6 of the Overview Document.

Materiality threshold

4.91 We have decided to keep the materiality threshold which was presented in our Draft Determinations at 0.5% of ex ante base revenue - in line with the default set out in Chapter 6 of the Overview Document. No stakeholders commented on this in response to our Draft Determinations.

General Reinforcement Re-opener

Purpose: To enable the GDNs to recover costs incurred from general reinforcement work driven by connections, demand forecasts, regulatory obligations and infrastructure needs.

Benefits: To protect consumers and GDNs by adjusting allowances based on the actual workloads delivered, as general reinforcement work is largely system driven and difficult to forecast.

Final Determinations summary

Design	Final Determination	Draft Determination
UM type	Re-opener.	Change - no mechanism proposed in our DD.
Scope	Costs relating to reinforcing the network to maintain exit and entry supply resilience and operational safety.	Change - no mechanism proposed in our DD.
Authority triggered	No.	Change - no mechanism proposed in our DD.

Design	Final Determination	Draft Determination
Network company re-opener windows	One re-opener window: 1 April 2029 - 7 April 2029.	Change - no mechanism proposed in our DD.
Materiality threshold	Default materiality threshold (see Chapter 6 of the Overview Document).	Change - no mechanism proposed in our DD.
Applied to	All GDNs.	Change - no mechanism proposed in our DD.

Final Determination rationale and Draft Determination responses

UM type, scope and materiality threshold

4.92 We have decided to introduce a new re-opener which will allow the GDN's to receive funding for general reinforcement projects, using the default re-opener materiality threshold of 0.5% of ex ante base revenue (see Chapter 6 of the Overview Document). This re-opener will enable the GDNs to recover costs for general reinforcement work for projects undertaken to enhance network capacity and reliability. This work is driven by connections, demand forecasts, regulatory obligations and infrastructure needs, and includes, but is not limited to:

- laying or upsizing existing mains;
- parallel laying of new mains;
- installation or modification of governors;
- installation or modification of pressure management systems; and
- entry reinforcement activities in relation to pipelines, compressors, pressure management, storage and NTS offtake metering for low flow.

4.93 This is a change from our Draft Determinations proposal that general reinforcement costs could be recovered through the New Large Loads Connections Re-opener. All four GDNs expressed concerns that smaller reinforcement projects would not meet the capacity and materiality thresholds of the New Large Load Connections Re-opener.

4.94 In response to this feedback, we have introduced a dedicated General Reinforcement Re-opener without the 1,500 scm/h capacity threshold to enable a funding mechanism for smaller projects. However, it will retain a materiality threshold in line with the default set out in Chapter 6 of the Overview Document. Applying the default materiality threshold is appropriate as it serves to minimise the overuse of the re-opener and ensures that companies manage some degree of risk. As we recognise that some of these projects are small by nature, we will

allow the GDNs to group eligible reinforcement projects together in order to trigger the re-opener.

4.95 We note we have separately allowed some baseline allowance funding for specific reinforcement projects for Cadent and SGN. These decisions are outlined in Appendix 1 of the relevant company annexes. We would expect Cadent and SGN to evidence how they have spent, or intend to spend, these baseline allowances if they apply to use this re-opener.

Re-opener trigger

4.96 This re-opener will not be authority triggered and the GDNs will have a single opportunity to trigger the re-opener between 1 April 2029 - 7 April 2029.

4.97 All GDNs requested an additional reopener window in their Draft Determinations responses. We expect the GDNs to have a greater understanding of planned general reinforcement projects by 2029. Additional material costs incurred after this window may be considered as part of the RIIO-GD3 close out, if appropriate. Therefore, we do not consider that an additional window is required.

Specified Streetworks Costs Re-opener

Purpose: To enable the GDNs to recover efficient costs associated with new permit and lane rental schemes or new requirements introduced by public bodies after the RIIO-GD3 price control is set.

Benefits: To protect consumers by avoiding the inclusion of uncertain streetworks spend in baseline allowances and to provide an opportunity for GDNs to request funding for additional efficient costs within RIIO-GD3, if they arise.

Final Determinations summary

Design	Final Determination	Draft Determination
UM type	Re-opener.	Decided in our SSMD.
Scope	Costs relating to new requirements placed on GDNs by streetworks legislation including new permit, lane rental or congestion charging schemes, and hazardous waste management costs incurred as a result of the Street Works UK Material Classification Protocol.	Change - Street Works UK Material Classification Protocol costs were not included.
Authority triggered	No.	Same as FD.

Design	Final Determination	Draft Determination
Network company re-opener windows	One re-opener window: 1 April 2029 -7 April 2029.	Change - one window of 25 January 2029 - 31 January 2029.
Materiality threshold	Default materiality threshold (see Chapter 6 of the Overview Document).	Same as FD.
Applied to	All GDNs.	Decided in our SSMD.

Final Determination rationale and Draft Determination responses

Scope

4.98 We have decided to largely retain the scope of this re-opener as proposed in our Draft Determinations. However, following feedback from all four GDNs, we have decided to expand the scope to include hazardous waste management costs incurred because of the new Street Works UK Material Classification Protocol.[48] This new protocol replaces Environment Agency Regulatory Position Statements (EA RPS) 298 and 299.[49] It introduces a risk-based assessment approach, providing a standardised methodology for the industry. This will affect the GDNs classification and management of waste arising from unplanned excavations.

4.99 Given the timing of this protocol coming into effect after the RIIO-GD3 business plan submissions and after the RIIO-GD2 re-opener trigger window, we have decided that costs incurred under the new waste classification protocol between 1 October 2025 and 31 March 2026 can be submitted through the RIIO-GD3 Specified Streetworks Costs re-opener.

4.100 We have updated the definition of Specified Streetworks Costs in the licence to ensure that the GDNs are able to apply for funding for new requirements under existing streetworks schemes.

Re-opener trigger

4.101 We have decided that the GDNs will have a single opportunity to trigger the re-opener between 1 April 2029 - 7 April 2029. Additional material costs incurred after this window may be considered as part of the RIIO-GD3 close out, if appropriate. This re-opener will not be Authority triggered. No stakeholders commented on this in response to our Draft Determinations.

[48] The Street Works UK Material Classification Protocol is a risk-based framework that became mandatory on October 1, 2025, for classifying excavated waste from utility works.
[49] EA RPS 298 and 299 allowed for the simplified management of excavated waste from street works when pre-sampling was not possible.

4.102 We have changed the trigger window from our Draft Determination proposal following a holistic consideration of the number and timing of re-opener windows across the full suite of re-opener mechanisms in all three sectors. More information about the default re-opener design parameters can be found in Chapter 6 of the Overview Document.

Materiality threshold

4.103 We have decided to keep the materiality threshold which was presented in our Draft Determinations at 0.5% of ex ante base revenue - in line with the default set out in Chapter 6 of the Overview Document. No stakeholders commented on this in response to our Draft Determinations.

GD specific pass-through costs

Purpose: Where GDNs have costs that are substantially outside of their control we use pass-through mechanisms. For these items, any change in the GDNs' costs is recovered fully from customers.

Benefits: To protect the companies from costs that are outside of their control.

4.104 This section covers GD sector specific pass-through mechanisms. For cross-sector UM, see Chapter 6 of the Overview Document.

Final Determinations summary

Design	Final Determination	Draft Determination
UM type	Pass-through.	Same as FD.
Scope	Costs relating to the following pass-through items: • Pension deficit charge adjustment; • Third-party damage and water ingress; • Shrinkage; • NTS exit capacity; • Theft of gas (supplier responsible); • Central Data Services Provider (CDSP) costs; • Miscellaneous; • Supplier of Last Resort (SoLR); and	Change - we have added a new pass-through item for costs associated with SoLR.

Design	Final Determination	Draft Determination
	• Stranraer (SGN only).	
Applied to	All GDNs.	Same as FD.

Final Determination rationale and Draft Determination responses

Scope

4.105 We decided to retain all RIIO-GD2 specific pass-through mechanisms, outlined in the summary table above.

4.106 We have also extended the scope to include a new pass-through item for costs associated with the SoLR mechanism, which were previously directed by the Authority under the Miscellaneous pass-through item. This is a change from our Draft Determinations. In a working group, WWU proposed that either a separate SoLR pass-through term be added for GDNs, or that additional drafting be included in the Miscellaneous pass-through item for SoLR direction, in line with Standard Special Condition A48 Last Resort Supply: Payment Claims. This would avoid GDNs having to request separate directions alongside Last Resort Supply Payment (LRSP) decisions. We agree that creating a separate pass-through item for these associated costs will reduce administrative burden by removing the need for the Authority to issue this direction.

4.107 These pass-throughs mechanisms apply to all GDNs, except for the Stranraer pass-through which only applies to SGN Scotland.

4.108 In their responses to our Draft Determinations, the GDNs suggested other changes to the pass-through mechanisms, which we have decided not to make. These are set out below.

Third-party damage and water ingress

4.109 Cadent suggested that we should reduce the materiality threshold for third-party damage and water ingress costs from 1.5% to 0.5% to be in line with the RIIO-GD3 re-opener mechanisms. We have decided to retain the materiality threshold at 1.5% of ex ante base revenue. The licence obligation for the GDNs to use 'best endeavours' to recover costs from third parties and via insurance policies before using the pass-through mechanism was relaxed to 'reasonable endeavours' between RIIO-GD1 and RIIO-GD2 to make the obligation more proportionate. The threshold has also had longstanding application since before RIIO-GD1, having

been introduced in GDPCR1.[50] We consider this level to still be appropriate. Maintaining the 1.5% materiality threshold ensures GDNs have sufficient flexibility to recover costs and meet GSOP obligations,[51] while continuing to protect consumers from overpayment.

National Underground Asset Register

4.110 Three GDNs highlighted the need for additional funding to cover costs associated with the National Underground Asset Register (NUAR).[52] We had proposed to reject this as a pass-through mechanism in our Draft Determinations as the Data (Use and Access) Act, which will enact the NUAR, was still going through Parliament and we did not have sufficient information on the level of associated costs for the GDNs. We also said that we consider it likely that the cost of the NUAR will be offset by the efficiency benefits, as it intends to increase the efficacy of data sharing and excavations, leading to fewer accidental strikes on underground pipes and cables, and reduced disruptions for the public and businesses.

4.111 The GDNs argued against our assumption that the NUAR would provide a significant reduction in accidental incidents and that it would result in safer digging. Cadent also said there would be an increased administrative burden associated with administering the NUAR alongside the Line Search Before U Dig (LSBUD).[53] The GDNs suggested costs for the NUAR should either be treated as pass-through mechanisms or be recovered through the Digitalisation or Resilience Re-openers.

4.112 We have reviewed this alongside the progression of the Data (Use and Access) Act, which received Royal Assent and was enacted in June 2025, and have decided to include it in the Digitalisation Re-opener. We recognise that the GDNs' role in supporting the NUAR remains uncertain, particularly regarding the annual fee and other associated costs. These costs are likely to evolve over the price control period as the NUAR service matures and operational requirements become clearer. Given this uncertainty, and our expectation that GDNs can manage these costs until the July 2028 re-opener window, we consider it more appropriate to

[50] GDPCR1 was the GD price control which ran from 1 April 2008 to 31 March 2013.
[51] The GSOPs are statutory regulations that define the minimum levels of service that the GDNs must provide to their customers.
[52] The NUAR will be a digital map of underground pipes and cables in England, Wales and Northern Ireland that is being built by the Geospatial Commission and will be enacted by the Data (Use and Access) Act.
[53] The LSBUD is a free online search service that users can check their works against asset owners' utility assets, such as underground and overhead pipelines and cables.

include these costs within the Digitalisation Re-opener rather than as a pass-through mechanism. Allowing recovery of these costs through the re-opener will enable the Authority to undertake appropriate scrutiny of the GDNs' justifications for costs related to the NUAR and ensure alignment with the intent of the Data (Use and Access) Act. We also consider it appropriate to include these costs under the Digitalisation Re-opener as they arise from a legislative requirement introduced by the Data (Use and Access) Act to share data and contribute to the NUAR's operational costs.

4.113 We expect all the GDNs to utilise the July 2028 Digitalisation Re-opener window to submit costs related to the NUAR, so we can benchmark their costs to ensure they are efficient.

4.114 Further detail on the Digitalisation Re-opener can be found in Chapter 12 of the Overview Document.

Joint Office of Gas Transporters (JO)

4.115 All GDNs raised concerns regarding the JO costs associated with the code reform process and with the code manager proposals in their Draft Determination responses. We had proposed to reject this as a pass-through mechanism in our Draft Determinations as the JO is still funded and governed by the GDNs and National Gas, and the costs are mostly within their control. We therefore think the JO should be funded through baseline allowances.

4.116 All the GDNs said there is ongoing uncertainty surrounding the code reform's impact on JO costs and suggested introducing a pass-through to protect Gas Transporters from unfair financial impact.[54] One ISG agreed with our view that the JO costs appear largely under the GDNs' control and therefore should not be included in a pass-through.

4.117 Due to the uncertainty around whether the role of the JO will change, the extent to which any changes will impact costs, and that costs are largely within the control of GDNs, we have decided to retain our Draft Determination position and not introduce a common pass-through for JO costs. Instead, we have included costs associated with the JO in the GDNs' baseline allowances.

[54] The code reform process is being undertaken to simplify and improve the governance of energy industry codes by appointing licensed code managers, consolidating existing codes, and introducing a strategic direction framework to ensure codes evolve in line with consumer interests and energy transition objectives.

5. Cost of service

5.1 This chapter sets out our approach to determining efficient totex for the GDNs in RIIO-GD3. The objective of cost assessment is to ensure that these allowances reflect an efficient level of costs that enables licensees to maintain a safe and reliable network and deliver an appropriate level of service. Cost assessment is a critical element of our review process, allowing us to determine the relative efficiency of the GDNs' Business Plan proposals, and ensuring consumers pay fair costs for delivery of work that is justified.

5.2 The large majority of the activities that the GDNs are expected to undertake and the investments they are planning to deliver in RIIO-GD3 are comparable to those they are delivering in RIIO-GD2. The repex programme, particularly the replacement of mandatory Tier 1 iron mains, accounts for the largest share of their cost base, with opex costs associated with emergency, repair, maintenance and business operations activities accounting for the next largest share. Capex costs for replacing[55] and refurbishing network assets represent the lowest share. Notable areas of changing activities, and therefore costs, between RIIO-GD2 and RIIO-GD3, include the trialling and adoption of new technologies to better monitor and identify leaks on the network, increases in spending on cyber security to ensure safe and resilient network operation, and a reduction in load-driven workloads, particularly connections and reinforcement. However, these activities account for comparatively small shares of overall totex costs.

5.3 We are conscious that the next gas distribution price control after RIIO-GD3 could look quite different. The Tier 1 repex programme is due to finish by 2032, while the introduction of new technologies to detect leaks during RIIO-GD3 (see ALD section above for details) could offer opportunities to improve how GDNs maintain and operate their networks in the future. We have indicated throughout this chapter areas where we think improved data collection over the course of RIIO-GD3 will help to inform the setting of future price controls.

5.4 The vast majority (in terms of costs) of the activities the GDNs will undertake in RIIO-GD3 are therefore known about ahead of time, high volume and repeatable. This lends itself well to econometric benchmarking as it allows us to compare the costs of these activities between companies on a like-for-like basis by taking into account multiple factors that drive differences in efficient costs between

[55] Excluding the replacement of mains and services which are included within the repex programme.

companies and over time. Our approach to determining costs for RIIO-GD3 reflects this. Where there are new or declining areas of spend, we have given consideration to whether it is appropriate to include these into our comparative benchmarking approaches or assess discretely. We set out these decisions throughout this chapter.

5.5 We have decided to update certain elements of the methodology we proposed in our Draft Determinations following stakeholder feedback, and these changes are set out in relevant sections of this chapter. We have allowed costs for activities only where we are satisfied of the need for the work, and where there is sufficient certainty of costs. We have applied efficiency challenges to these costs to ensure they represent good value for consumers, while allowing GDNs to maintain a safe, reliable and resilient gas distribution network.

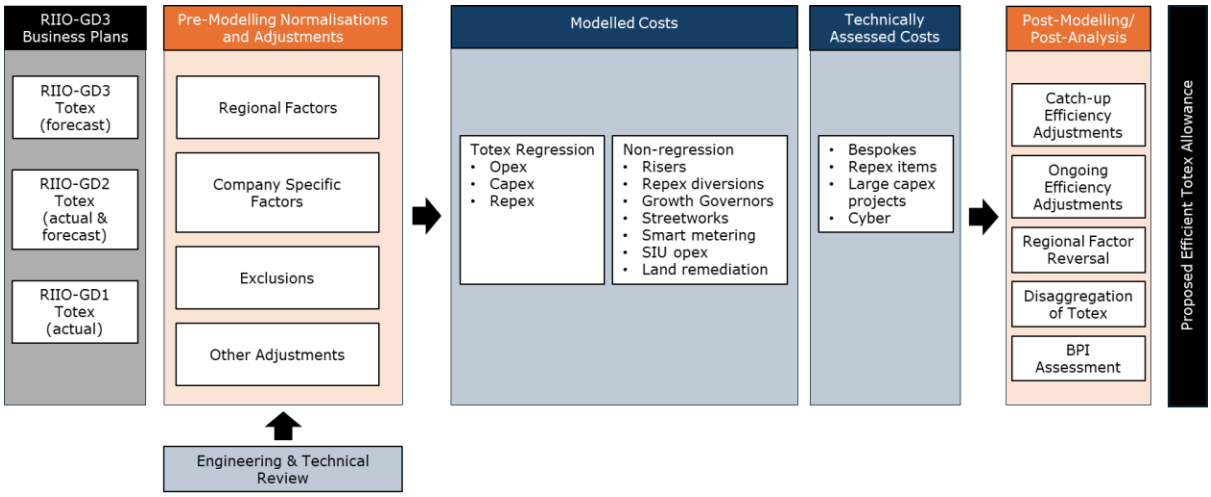
5.6 Where we consider that the needs case or option proposed for the investment have not been fully justified, we have removed costs from the requested baseline allowances. In some instances, where there is uncertainty about the cost or workload at this time, but where they may become justified during the price control as further information becomes available, we have moved these costs to dedicated re-openers, as described in Chapter 4. We indicate throughout this chapter, and in the Company Annexes, where we have disallowed costs and workloads or moved them into re-openers.

5.7 Our overall approach to cost assessment is designed to align with and complements our policy decisions set out in Chapters 3 and 4. It should also be considered in-the-round, as part of the wider RIIO-GD3 package, which determines the relative balance of risk and rewards companies will face in RIIO-GD3. We think our evidence-based cost assessment approach, described throughout this chapter, is robust and the outcomes are balanced. The totex allowances we have set in our Final Determinations strike a balance between ensuring GDNs are efficiently funded to deliver their activities, including delivering environmental benefits, while minimising costs faced by consumers.

Chapter structure

5.8 Figure 4 provides a simplified overview of the cost assessment process we have followed for RIIO-GD3. This chapter is structured to replicate the flow of the cost assessment process, discussing each of the building blocks in turn.

Figure 4: Simplified overview of RIIO-GD3 cost assessment process



5.9 The inputs to our modelling process are taken directly from the Business Plan Data Templates (BPDTs) provided by the GDNs as part of their December 2024 Business Plan submissions for each of the eight networks. In limited circumstances we have allowed for updated resubmissions of some aspects of the data in our Final Determinations (further set out in the Resubmissions section below).

5.10 We have made a series of pre-modelling normalisations and adjustments to cost and volume data prior to running our benchmark modelling process. These adjustments have been directly informed by our cost, engineering and technical reviews. Further detail of our approach to pre-modelling adjustments and normalisations is set out in the Pre-modelling normalisations and adjustments section of this chapter.

5.11 Following the cost benchmarking and technical assessment processes, we applied post-modelling efficiency challenge to determine efficient totex allowances. Our approach to catch-up efficiency is presented in the Catch-up efficiency challenge section of this chapter, and to the OE challenge in Chapter 8 of the Overview Document. We cover our approach to the TIM towards the end of this chapter.

5.12 Finally, we have disaggregated totex into activity level allowances, where it is necessary to do so to inform specific elements of the price control framework (eg PCDs, volume drivers).

5.13 Our view of efficient totex has fed directly into the price control financial models to determine the allowed revenues for GDNs in RIIO-GD3. See the Finance Annex for further detail on how allowed revenues have been derived.

Baseline totex

5.14 We have decided to set a combined baseline totex of £14.6bn for all networks in RIIO-GD3, an increase of £1.8bn (14%) from our Draft Determination position. This reflects the combination of revisions to our assessment of investment need and changes to our modelling methodology based on reviews of evidence provided through consultation response, and mechanistic updates to the value of efficiency challenges which are based on the outcomes of the updated modelling. We explain these changes in further detail throughout this chapter. Table 15 below compares baseline submitted totex (including resubmissions) against our view of efficient totex for each network for RIIO-GD3.

Table 15: RIIO-GD3 baseline totex (£m, 2023/24 prices)

Network company	Submitted totex (£m)	Ofgem FD efficient totex (£m)	Ofgem DD proposed totex (£m)	Difference FD vs submitted (£m)	Difference FD vs submitted (%)
Cadent - EoE	2,671.2	2,370.0	2,092.2	-301.2	-11%
Cadent - Lon	2,264.2	1,950.3	1,676.6	-313.8	-14%
Cadent - NW	1,917.3	1,564.5	1,397.5	-352.8	-18%
Cadent - WM	1,392.3	1,251.3	1,116.2	-140.9	-10%
Cadent - total	8,244.9	7,136.2	6,282.5	-1,108.7	-13%
NGN	1,848.4	1,659.8	1,568.1	-188.6	-10%
SGN - Sc	1,380.7	1,206.5	1,051.2	-174.2	-13%
SGN - So	3,340.9	2,791.3	2,378.8	-549.6	-16%
SGN - total	4,721.6	3,997.8	3,430.0	-723.8	-15%
WWU	2,210.9	1,779.1	1,501.7	-431.8	-20%
GD sector	17,025.8	14,572.9	12,782.3	-2,452.9	-14%

5.15 The baseline totex referenced in this section comprises forecast net controllable costs, including both direct and indirect operating expenditure (opex), capital expenditure (capex), and replacement expenditure (repex). These figures incorporate both catch-up efficiency and the ongoing efficiency challenge.

However, the figures exclude real price effects (RPEs) to enable a like-for-like comparison with the submissions provided by GDNs.

5.16 Non-controllable costs, while included in the total allowed revenue recoverable by GDNs, are excluded from baseline totex and are assessed separately and funded as pass-through costs.

5.17 Where we present submitted totex in our Final Determinations, this represents forecast net controllable costs, including our cost exclusions, reallocations and accepted resubmissions; but excluding ongoing efficiency, RPEs, non-controllable pass-through costs, unless otherwise stated. Ofgem efficient totex includes cost exclusions, reallocations, accepted resubmissions and ongoing efficiency, but excludes RPEs, non-controllable pass-through costs, unless otherwise stated.

Changes to baseline totex from Draft Determinations

5.18 We have allowed an additional £1.8bn in efficient totex at FDs, relative to our Draft Determinations position. This is driven by the following changes:

- Draft Determination model updates - we made updates to correct inaccuracies in the Draft Determination models, resulting in mechanistic changes to totex allowances.
- Resubmissions - in some cases, GDNs have provided updated costs and workload information since their original Business Plan submissions. Where we consider this justified and reasonable, we have incorporated these resubmissions into our Final Determinations cost assessment process.
- Engineering and technical reviews – in our Draft Determinations we removed costs associated with workloads that were not deemed to be justified. Where GDNs have provided additional data which has led to an updating of our initial recommendations on the needs case, these workloads and associated costs have been included within the cost assessment process in our Final Determinations.
- Modelling methodology updates - we have undertaken detailed reviews of stakeholder feedback which covered many aspects of our proposed cost assessment methodology in our Draft Determinations. In some cases, we have changed our approach in our Final Determinations, resulting in changes to efficient totex allowances. Depending on the specific change, allowances may have moved up or down.
- Changes to the overall level of efficiency challenge - as with our Draft Determinations approach, we apply a catch-up efficiency challenge and an

ongoing efficiency challenge as post-modelling adjustments. These are calculated mechanistically within the model, and as the value of modelled totex has changed, so have the levels of efficiency challenge.

Assessment process

5.19 We have maintained the same overarching approach to assessing costs for Final Determinations as we set out in Draft Determinations. This includes detailed cost, engineering, technical and policy assessments. Changes to our assessment positions are set out in the relevant sections below.

5.20 Our objective in cost assessment is to propose baseline totex at an efficient level for each GDN. We do this by undertaking a comprehensive and multi-faceted assessment of each licensee's Business Plan, including the BPDTs and Investment Decision Packs (IDPs).[56] This incorporates different elements, including:

- Cost assessment: determining whether the costs submitted by licensees are economically efficient, through detailed examination of cost and unit cost data using different economic modelling approaches.
- Engineering assessment: considering whether the needs case for proposed capital investments (eg projects and programmes of work) is justified. In the GD sector, this primarily means detailed review of Engineering Justification Papers (EJPs) submitted by the GDNs for capex and repex projects.
- Technical assessment: considering whether the needs case and costs for proposed investments in areas that are highly technical and require specialist knowledge (ie IT&T, data and digitalisation, cyber) are justified.
- Policy assessment: our policy teams undertake comprehensive reviews of new or updated outputs proposed by the GDNs for RIIO-GD3. Decisions from these reviews can directly inform the allowances proposed through cost assessment (eg if a company has submitted an allowance attached directly to a new output proposal).

5.21 The outcome of each of these assessment processes factors into our overall view of efficient totex in our Final Determinations. The following sections provide an overview of the approaches across each of these elements. We have set out in this chapter how the outcomes of the different review processes affect the inputs into our modelling process. References to further details on these individual

[56] IDPs contain Engineering Justification Papers (EJPs) and Cost Benefit Analysis (CBA) assessments.

assessments are also provided, to help navigate through the Final Determination documentation.

Draft Determinations correction process

5.22 We shared the suite of RIIO-GD3 costs model files directly with each of the GDNs at Draft Determinations. We undertook a collaborative review of the model suite over the summer. At the end of this process, we ran an updated version of the Draft Determination model, which we called the Issue Corrected Model (ICM), correcting for inaccuracies and modelling implementation issues that we accepted should be adjusted.[57] We note that some of the GDNs have referenced the outputs of the ICM in their consultation responses. We consider this collaborative updating approach an important part of the consultation process, given the volume and complexity of the underlying data and the number of steps contained within the modelling.

5.23 The outcome of the ICM was an increase in industry totex of £303m, with all GDNs seeing increases to their proposed Draft Determination allowances. These increases resulted mechanistically from updating inaccuracies in the Draft Determinations model files and did not include any updates to the methodology or policy proposals set out in Draft Determinations. These updates have been incorporated within our Final Determination decisions on efficient totex.

Resubmissions

5.24 We have decided to allow £432.6m of additional costs submitted by the GDNs as part of the Draft Determinations consultation response process. These costs cover resubmissions for the GDNs repex programmes, following HSE driven changes to the qualifying criteria, revisions to historical submitted values identified by GDNs after original BPDT submissions and data updates provided in response to SQs. We consider these additional costs to be justified because of the supporting evidence and rationale provided by the GDNs.

5.25 Table 16 below sets out the value of the resubmitted costs by company and network. The costs presented are as submitted, and do not include the outcome of technical reviews and efficiency challenges applied through our cost assessment process.

[57] The ICM model resulted in an increase of £303m in totex across all of the GDNs. The changes for each network were: EoE (+£52m), Lon (-£6m), NW (+£48m), WM (+£24m), NGN (-£22m), Sc (+£57m), So (+£82m), WWU (+£70m). Difference between total and sum of individual network due to rounding.

Table 16: RIIO-GD3 additional submitted totex in our Final Determinations compared to our Draft Determinations (£m, 2023/24 prices).

Network company	Additional RIIO-GD3 totex (£m)	Difference vs Dec 2024 submitted totex (%)
Cadent - EoE	60.7	2%
Cadent - Lon	70.4	3%
Cadent - NW	63.8	3%
Cadent - WM	30.0	2%
Cadent - Total	224.9	3%
NGN	11.2	1%
SGN - Sc	38.3	3%
SGN - So	137.7	4%
SGN - Total	176.0	4%
WWU	20.6	1%
GD sector	432.6	3%

Cost assessment overview

Overview

5.26 We have undertaken a series of technical reviews, focusing on different economic, engineering and technical elements of the investments proposed by the GDNs in their Business Plans. These reviews inform the methodological approaches we have taken to assessing costs, as well as determining the levels of allowed workload for different activities in RIIO-GD3. We discuss the different elements of our assessment process below.

Review of CBA payback periods

5.27 We have decided to apply an 11 year CBA payback period cutoff to non-mandatory repex investments in RIIO-GD3. Further details of our decision are provided in the repex section of Chapter 2. Since Draft Determinations, we have updated our approach to allow costs and workloads associated with PVC pipes, MPDI and consequential PE mains, which form part of SGN's proposed 'Other policy and condition' workloads that did not meet our CBA payback criteria. It is mandatory for the GDNs to replace these types of assets when identified. We have made no further changes to our assessment since Draft Determinations.

5.28 We have disallowed costs and workloads for investments which exceed an 11-year payback. We have removed the following workloads in our Final Determinations:

- SGN - £14.9m for planned investments on its Southern and Scotland networks;
- NGN - £53.7m for proposed Tier 3 investments; and
- WWU - £8.4m for proposed Tier 2B and 3 investments

5.29 Where we have removed repex costs submitted by the GDNs, we have allowed additional opex costs to ensure companies can continue to maintain a secure and resilient network during RIIO-GD3.

Engineering assessment overview

Background and context

5.30 In this section we outline the methodology we adopted to complete the analysis of the licensee submissions, following the Draft Determination consultation.

5.31 A high-level summary of the main areas where we have made adjustments in RIIO-GD3 is set out below. Detailed summaries of our engineering review of each EJP can be found in Appendix 1 of each Company Annex. Chapter 8 of the Overview Document sets out our approach to reviewing EJPs in RIIO-3.

Approach to engineering review in gas distribution

5.32 We have adopted three overarching principles when undertaking the engineering technical review of the investments proposed in the company Business Plan submissions for RIIO-GD3. These relate to growth, asset condition and hydrogen.

5.33 We have assumed that there is not expected to be any significant expansion in the gas distribution networks over the RIIO-3 period. We have determined any submissions that were anticipatory investment, on the premise of future growth, as unjustified. This does not apply to projects that are addressing existing constraint issues or reinforcement projects that relate to existing new connection commitments.

5.34 It is important that the health of existing gas networks is maintained while the energy transition takes place and that licensees continue to provide safe and reliable supplies to customers. We have categorised the EJP submissions as either Asset Health or Major Projects. In assessing Asset Health submissions, we expected to see evidence of intervention requirements based on asset condition data. This was the main area where we considered further information was required for a number of proposed investments in our Draft Determinations. For Major Projects, our focus was on whether the project was required to maintain the integrity of network in the long term.

5.35 The Investment Decision Pack Guidance clearly identified investments related to new hydrogen networks or the conversion of existing natural gas networks to carry hydrogen as being outside the scope of RIIO-3. We have therefore classified any such proposals as unjustified.

Summary of engineering review findings

5.36 When carrying out the assessments we identified issues that were common across some or all the GDNs, covering availability of records and asset health selection. The provision of adequate data to support submissions for Asset Health spend was variable. In some cases, very good data was provided, either in the original submission, through the SQ process or following the Draft Determinations consultation. In other cases, the data provided was inadequate or was not provided at all. Where licensees failed to justify the needs case for an investment or demonstrate appropriate optioneering had been undertaken, we have recommended adjustments to workloads, or supported alternative investment options, to ensure customers only pay for work that is required.

5.37 An important area of focus in our assessment was the relationship between asset condition data and the economic case for intervention. On several occasions we identified proposals to replace assets with good asset health scores. In some instances, it was stated that this was because the overall NARM score denoted that this was a critical asset. The NARM process is only one tool in the companies' asset management processes, and we do not consider high criticality scores alone to be sufficient reason, for justification of proposed asset investments. We assessed investments proposing replacement of demonstrably good assets as unjustified and made corresponding workload adjustments.

Subject specialist technical reviews overview

5.38 We undertook reviews for proposed RIIO-GD3 investments in IT&T, cyber and data and digitalisation using subject area specialists, reflecting the technical nature of these activities, and the complexity and importance of the proposed investments. An overview of our approach to assessing proposed cyber investments is set out in Chapter 11 and data and digitalisation investments in Chapter 12 of the Overview Document.

Policy assessment overview

5.39 Our decisions on the GDNs proposals for new licence conditions (eg PCDs or UMs) linked to certain investments are set out in Chapters 3 and 4. To ensure consistency between our policy assessment and our cost models, we have made necessary adjustments to how costs are treated within the modelling suite (eg

removed costs from baseline funding into UMs). Details of these proposed adjustments are explained in the relevant sections below.

Approach to cost assessment

Background

5.40 The purpose of cost assessment is to calculate the efficient baseline level of costs that will enable network companies to maintain safe and reliable networks whilst delivering an excellent level of service to gas consumers.

Final Determinations summary

Design	Final Determination	Draft Determination
Modelling approach	Single totex regression model based on a composite scale variable (CSV) cost driver, combined with non-regression benchmarking and technical assessment of cost activities which are not suitable for regression benchmarking.	Same as FD.

Final Determination rationale and Draft Determination responses

5.41 We have decided to continue to set efficient baseline totex using a single totex regression model, based on a CSV as the cost driver, combined with non-regression benchmarking and technical assessment of cost activities which are considered not to be suitable for statistical benchmarking. Overall, we received relatively few responses on the proposed model in our Draft Determinations, with the majority of comments coming from the GDNs. On the whole, the GDNs supported the use of our top-down totex model in RIIO-GD3, although proposed updates to various elements of it, which we discuss throughout this chapter. However, we did not receive any convincing evidence to justify changing our model selection in our Final Determinations. Our model captures the key drivers that explain variations in efficient expenditure between companies and over time. It performs well against our model selection criteria and is sufficiently robust to set efficient expenditure allowances for RIIO-GD3.

5.42 The totex model is grounded in economic and engineering logic, resulting in good statistical performance and explanatory power. We have tested other approaches (eg bottom-up and middle-up models) and found they had worse performance. The use of a single top-down totex model also allows for trade-offs between opex, repex and capex to be captured, and allows GDNs a degree of flexibility in deciding how best to deploy total available funding across different types of activity using their own expertise. This is consistent with the principles of the RIIO framework.

5.43 NGN, WWU and Cadent, as well as NPg, supported the principle of using a single top-down totex regression model. NPg noted that it is good practice to use simple and transparent models in cost assessment. While we recognise that some circumstances may call for a more complex approach, we agree that it is generally best to adopt a simpler more transparent models for the reasons above.

5.44 SGN and NGED disagreed with the use of a single top-down totex regression model but accepted the principle of using regression models as a central tool in cost assessment.

5.45 Despite accepting the role of regression models in cost assessment, SGN disagreed with our proposed single model approach, arguing that it does not capture the full range of regional and operational complexities experienced by different GDNs. SGN proposed that, instead of relying on a single top-down totex regression model, Ofgem should reach a view on efficient costs by triangulating evidence from different models (top-down, bottom-up, complexity adjusted).[58] NGED proposed a broadly similar approach. SGN claimed that a multiple model approach would better reflect the diversity of network challenges and reduce the risk of bias in any single model.

5.46 We do not agree that, in the context of RIIO-GD3, a multiple model approach would improve the robustness or accuracy of our cost assessment, better reflect the diversity of network challenges or reduce the risk of bias. Our position is consistent with the views expressed by NGN, Cadent, WWU and NPg, all of whom supported the use of a single top-down totex model. As explained above, a single top-down totex model allows for opex, repex and capex trade-offs to be captured and gives GDNs greater flexibility over their totex allocation. We have decided not to incorporate additional models into our calculation of efficient totex.

5.47 We assessed a number of alternative model specifications ahead of Draft Determinations, including different versions of top-down totex models, 'middle-up' and 'bottom-up' models. We observed that all of the middle-up and bottom-up model specifications we tested resulted in worse statistical fit (lower adjusted-R2) than the top-down totex regression model. Most of those models also failed one or more of the statistical robustness tests we applied. Our updated analysis

[58] In its response SGN proposed using three models that started largely from the same inputs as our model but represented the relationship between cost drivers and expenditure differently. These included a 'top-down' model similar to our preferred approach of using industry averages to determine CSV weights, a similar model to our preferred approach but incorporating 'bottom-up' weightings for CSV components, and a third model that incorporated repex complexity directly within the repex synthetic driver.

of these alternative model specifications since Draft Determinations did not suggest that there is a statistical case for incorporating additional models into our assessment of efficient totex for RIIO-GD3.

5.48 In its consultation response, SGN proposed the use of triangulation between variants of our proposed totex model, using different sets of input assumptions. We note that triangulation between different models (as proposed by SGN) would only reduce the risk of bias and better capture differences between networks if the additional models considered can be shown to provide additional or more robust evidence than our preferred model. This was a point also made by NPg, which cautioned against using multiple models merely for the sake of averaging, especially when a clearly superior alternative exists. As set out throughout this chapter, we have gone through an extensive assessment process to determine the appropriate specification for our totex model, which has strong statistical performance. We think introducing additional variations of our totex model based on different sets of input assumptions, that are not consistent with the outcomes of our own cost assessment processes, risks increasing bias and weakens the economic and engineering rationale underpinning our modelling framework.

5.49 We note that our top-down totex regression model already captures the cost drivers of middle-up and bottom-up models through the CSV. Moreover, an advantage of using a single top-down totex model is that it does not require us to make judgements as to the best allocation of available funding between different areas of expenditure or about how much weight to place on the results of different models. A single top-down totex model is guided by the resource allocation choices made by companies. It is also better able to capture the trade-offs between capex, repex and opex. This was a point also made by NPg, which argues that this flexibility is essential in promoting cost efficiency and innovation. We also note that gas distribution is a mature and established industry, where different GDNs deliver comparable activities, that are well represented by our single totex model (as evidenced by its good statistical fit). Bottom-up and middle-up models would arguably be more appropriate for industries where there are greater differences between the activities performed by each company, which need to be modelled at a more granular level.

Quality of service

5.50 NGN considered that we should apply additional scrutiny to GDNs' proposed spending to ensure there is sufficient expenditure to improve service levels. NGN cited the service levels on the repair of gas escapes in particular, claiming that

networks with higher forecast (ie RIIO-GD3) economic efficiency have lower historical (ie RIIO-GD2) service levels on this service metric, with the exception of itself. NGN did not propose adjustment to the modelling methodology but sought assurance that GDNs have requested sufficient funding to achieve target service levels.

5.51 In principle, we do not think that it is appropriate to account for qualitative factors (such as service quality and output delivery) within our quantitative assessment of efficient costs. We consider that we already have a range of targets and incentives to drive improvements in customer service. In addition, GDNs' business plans should show how they will be achieving service targets and how the associated costs within their forecasts are sufficient. We assume that companies will meet their minimum standards of delivery in the future, and that allowances submitted by GDNs are consistent with this assumption.

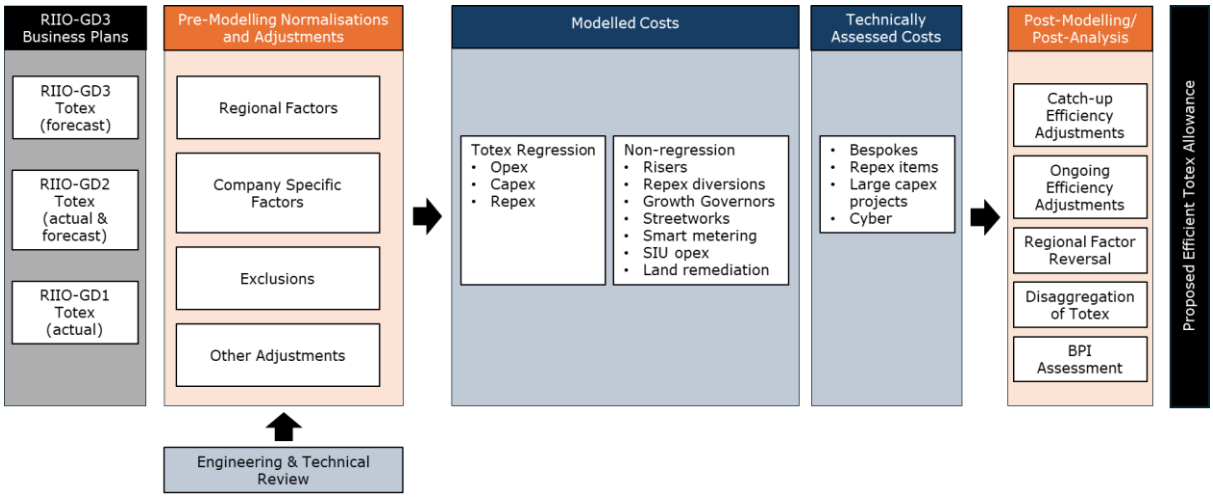
5.52 Our quantitative assessment is a forward-looking exercise in the context of allowance setting for RIIO-GD3, whereas NGN's criticism refers to historical performance. We think it is more appropriate to deal with historical performance against output targets through mechanisms within the existing RIIO-GD2 price control, rather than to seek to compensate for this when setting RIIO-GD3 allowances. We consider that it is a reasonable starting point to assume all companies business plans are consistent with forward-looking output targets being met in RIIO-GD3. If these are not met, we have put in place a suite of mechanisms that will make suitable adjustments to companies allowances within RIIO-GD3. We also note that NGN's analysis compares efficiency of totex spend with a single service quality metric rather than the full range of outputs that GDNs report on. We do not think this results in robust conclusions based on the analysis. Overall, we consider that it is not practical or desirable to integrate quality of service into the benchmark modelling process, and we have not adopted such an approach for RIIO-GD3.

Totex model for RIIO-GD3

Background

5.53 Figure 5 sets out a visual representation of our cost assessment process for RIIO-GD3, which remains aligned with the proposed totex model in our Draft Determinations.

Figure 5: RIIO-GD3 cost assessment process map



5.54 The data used to inform our cost assessment approach is taken from the BPDTs submitted by each company for each GDN as part of their RIIO-GD3 submission. The BPDTs include information on costs, volumes, unit costs, network characteristics and other aspects of each GDN's operations. Submissions include both historical data, covering RIIO-GD1 and part of RIIO-GD2, and forecast data, covering part of RIIO-GD2 and RIIO-GD3. We set out further discussion on our chosen time period in the totex benchmarking section below.

5.55 Prior to undertaking comparative benchmarking and efficiency assessments of the submitted costs, we make a series of pre-modelling adjustments. These are made to reflect the outcomes of our technical and engineering assessments of the needs cases of submitted workloads, as well as to allow for like-for-like comparison between GDNs. Pre-modelling adjustments cover workload adjustments, regional and company-specific factor adjustments, exclusions and other normalisations.

5.56 As already discussed, we use regression analysis as our main tool for assessing the efficiency of submitted costs in RIIO-GD3. For some costs and activities, regression analysis is not considered suitable due to issues of data consistency or comparability between GDNs. In these cases, we use separate assessment approaches to determine efficient costs. Where costs have drivers that vary significantly between GDNs or are unique to a subset of GDNs and are therefore not suitable for inclusion in the regression model, we use non-regression benchmarking approaches. For certain cost activities that are bespoke to individual GDNs or where the nature of the work within an activity is highly GDN-specific, we use technical assessment. This includes bespoke outputs, where we have assigned a specific policy mechanism to a bespoke activity for one GDN or

company (eg we've proposed a bespoke PCD for Cadent's London Medium Pressure project).

5.57 Once we have assessed cost efficiency, either through regression or non-regression benchmarking approaches which are collectively referred to as modelled costs, we add back in normalisation cost adjustments. We then apply a catch-up efficiency challenge. This is to challenge less efficient GDNs to catch-up to an operational efficiency level consistent with the more strongly performing GDNs in the industry. Our approach to setting the catch-up efficiency challenge at RIIO-3 is set out in the Catch-up efficiency challenge section below.

5.58 We then add the technically assessed costs to the efficient modelled costs and apply a post-modelling ongoing efficiency challenge to all of totex. This is intended to incentivise all companies to continue driving productivity improvements that we consider even the most efficient company can achieve. This sets the final level of efficient totex for RIIO-GD3. See Chapter 8 of the Overview Document for our approach to setting the ongoing efficiency challenge in RIIO-3.

5.59 Our final step is to disaggregate efficient totex into allowances for certain cost activities, which informs the allowances that go into individual licence conditions and the BPFM. Our approach to disaggregating totex allowances is set out towards the end of this chapter.

5.60 Stage B of the Business Plan Incentive (BPI) is directly informed by the outcomes of our cost assessment process across regression, non-regression and technical assessment. See Chapter 5 of the Overview Document for further details.

5.61 Table 17 summarises the value of RIIO-GD3 submitted costs assessed through each assessment approach, prior to any pre-modelling adjustments being applied. We have assessed 83% of costs through regression analysis, with 9% through non-regression benchmarking and 8% through technical assessment.

5.62 Table 18 summarises the final modelling cost adjustments for RIIO-GD3. The positive values for NGN and Cadent's EoE and WM networks are a result of these networks returning efficiency scores close to or ahead of the efficiency benchmark.

Table 17: Company submitted totex by cost assessment approach at FD (£m, 2023/24 prices)

Network Company	Submitted totex (£m)	Modelled regression costs (£m)	Modelled non-regression costs (£m)	Technically assessed costs (£m)
Cadent - EoE	2,809.6	2,354.1	218.4	237.1
Cadent - Lon	2,385.6	1,792.5	332.4	260.7
Cadent - NW	2,000.9	1,730.6	133.8	136.5
Cadent - WM	1,453.9	1,256.1	91.0	106.8
Cadent - Total	8,650.0	7,133.4	775.6	741.1
NGN	1,906.4	1,792.4	77.0	37.0
SGN - Sc	1,437.3	1,180.8	150.4	106.2
SGN - So	3,442.5	2,742.9	449.6	250.0
SGN - Total	4,879.8	3,923.7	600.0	356.2
WWU	2,281.0	1,885.7	124.0	271.2
GD sector	17,717.2	14,735.1	1,576.6	1,405.5
% of total submitted totex	100%	83%	9%	8%

Table 18: Final modelling cost adjustments and efficient totex allowances for RIIO-GD3 (£m, 2023/24 prices)

Network Company	Modelled cost - pre-modelling (£m)	Non-regression (£m)	Technically assessed (£m)	Benchmark modelling, including catch-up efficiency challenge (£m)	Ongoing efficiency (£m)	Total (£m)
Cadent - EoE	-139.6	-35.3	-62.9	7.1	-121.0	-351.7
Cadent - Lon	-139.0	-47.4	-63.0	-24.1	-101.2	-374.7
Cadent - NW	-97.7	-22.9	-47.6	-143.7	-80.4	-392.1
Cadent - WM	-83.7	-10.9	-32.5	32.0	-63.9	-159.0
Cadent - Total	-460.0	-116.5	-205.9	-128.6	-366.5	-1,277.5

Network Company	Modelled cost - pre-modelling (£m)	Non-regression (£m)	Technically assessed (£m)	Benchmark modelling, including catch-up efficiency challenge (£m)	Ongoing efficiency (£m)	Total (£m)
NGN	-101.7	-8.7	1.5	1.1	-86.2	-194.1
SGN - Sc	-54.6	-15.4	-9.3	-22.6	-61.4	-163.3
SGN - So	-152.1	-97.2	-29.4	-148.3	-141.9	-568.9
SGN - Total	-206.7	-112.6	-38.8	-170.9	-203.3	-732.3
WWU	-82.4	-15.5	-78.2	-163.1	-91.0	-430.2
GD sector	-850.8	-253.4	-321.4	-461.6	-747.0	-2,634.1
% of total reductions	32	10	12	18	28	100

Pre-modelling normalisations and adjustments

Overview

5.63 A critical part of our cost assessment process involves identifying and applying pre-modelling adjustments. We make adjustments to licensees submitted data to correct for inconsistencies and external effects, to ensure that our cost benchmarking is carried out on a comparable basis between GDNs. For example, adjustments may be made to exclude costs that are unsuitable for comparative assessment, or to remove costs associated with work that we are either separately assessing or have rejected as part of our needs case assessment.

5.64 We think pre-modelling adjustments are the most effective method to normalise for differences between networks and ensure comparable benchmarking. This is because they are grounded in economic and engineering rationale and are therefore easier to explain and understand. For this reason, we also consider pre-modelling adjustments and normalisations to be more effective than some of the alternative options proposed by GDNs (such as including different variables in the model itself) to address concerns raised by GDNs regarding reflecting the costs of operating in specific regions.

5.65 We have undertaken extensive reviews of our pre-modelling adjustments since Draft Determinations, reflecting the level of feedback we received through consultation responses. We have broadly maintained a similar set of pre-modelling adjustments as in our Draft Determinations that continue to fall into

the categories below. However, we have made several changes to the methods used to calculate the value of the adjustments, following evaluation of the evidence put forward through consultation responses. We set these out throughout this chapter. We think this has ensured that our pre-modelling normalisations and adjustments better reflect cost differences between networks that are genuinely outside of management control or driven by external factors.

5.66 Our pre-modelling adjustments fall into the following categories:

- Regional factors: applied to allow comparative assessment between GDNs when operating in certain regions attracts higher or lower costs than elsewhere.
- Company-specific factors (CSFs): applied to allow comparative assessment between GDNs when the inherent characteristics of a particular network attract higher costs than others.
- Exclusions: applied when costs are inappropriate for comparative benchmarking because they are only incurred by one or two GDNs, where costs are not explained by the cost drivers used in our cost models.
- Cost and workload adjustments following technical review: applied to remove or reduce costs and workloads when the needs case for the underlying workloads has not been sufficiently justified.
- Other adjustments: applied when we need to normalise for differences in input assumptions between GDNs to allow for comparative benchmarking; or where we need to reclassify costs from one activity to another to ensure comparability between GDNs.

5.67 This section explains our decisions and rationale for each of these categories in our Final Determinations and sets out updates to our assessment since Draft Determinations where appropriate.

Regional factors

Overview

5.68 Some GDN costs are driven by factors which are outside of their control and are unique to the geographical area(s) in which they operate. We term these 'regional factors', and they can lead to higher or lower costs that are not related to relative operating efficiency. We make pre-modelling regional factor adjustments (eg removing the additional costs faced relative to other GDNs) to normalise for these uncontrollable costs and then add them back to the GDNs' cost allowances post benchmarking. This allows for the econometric modelling to be undertaken on a comparable basis.

5.69 In our Draft Determinations we made pre-modelling adjustments to submitted cost data to account for regional factors covering labour costs, urbanity and sparsity effects. This was consistent with the regional adjustment categories for RIIO-GD2.

5.70 Following Draft Determinations, we have considered additional evidence, undertaken further assessment and concluded that some of the differences in costs between GDNs continue to be explained by factors beyond their control. We have not changed our approach to the regional labour adjustment, but we have amended the methodologies used to account for the costs of operating in particular urban or sparse areas. Our methodology for these pre-modelling adjustments is explained below.

- **Regional labour**: We make regional labour cost adjustments to account for the difference in efficient labour costs among GDNs due to geographical location. For GDNs operating in London and South-East England, we have accepted cost differentials and adjusted costs downwards prior to regression modelling.
- **Urbanity**: We make pre-modelling cost adjustments to account for additional costs of operating in urban areas. We have replaced the separate labour productivity and reinstatement adjustments with a single 'Nature of Street's adjustment to reflect the materially higher efficient costs of working underground in London owing to the make-up of streets, as proposed by Cadent.[59] Alongside this, we have decided to accept Cadent's complementary company-specific factor claim for Network Specific Factors to adjust for the impacts of population and property density not accounted for by Nature of Streets, which we have applied to the London and Southern GDNs.
- **Sparsity**: We make pre-modelling adjustments to account for the additional costs faced by networks containing sparsely populated areas in carrying out their Emergency and Repair activities, which we have extended to include repex activities. These adjustments compensate for reduced labour productivity owing to factors such as additional travel time. We have decided to refine our definition of sparsity so that it is limited to fewer, sparser areas.

[59] The drivers of the additional costs relate to: the location of assets, type of carriageway surface and road structure, underground utility congestion and large diameter mains.

5.71 Table 19 summarises the annual average regional factor adjustments we have made to the submitted costs data for RIIO-GD3.[60]

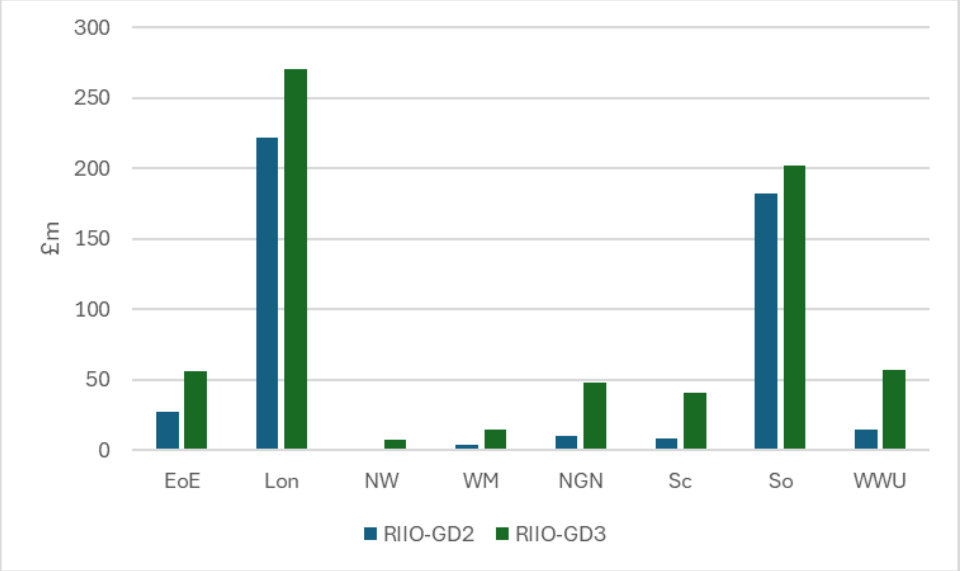
Table 19: Summary of regional factor and company-specific factor adjustments by GDN for RIIO-GD3 (£m, 2023/24 prices)

Adjustment factor	**EoE**	**Lon**	**NW**	**WM**	**NGN**	**Sc**	**So**	**WWU**
Labour	12	136	-	-	-	-	115	-
Sparsity	34	-	7	15	48	41	11	57
Urbanity (Nature of Streets)	10	108	-	-	-	-	58	-
Network Specific Factors	-	27	-	-	-	-	17	-
RIIO-GD3 Total	56	270	7	15	48	41	202	57

5.72 Figure 6 compares the regional factor adjustments by GDN for RIIO-GD3 with those we made for RIIO-GD2.

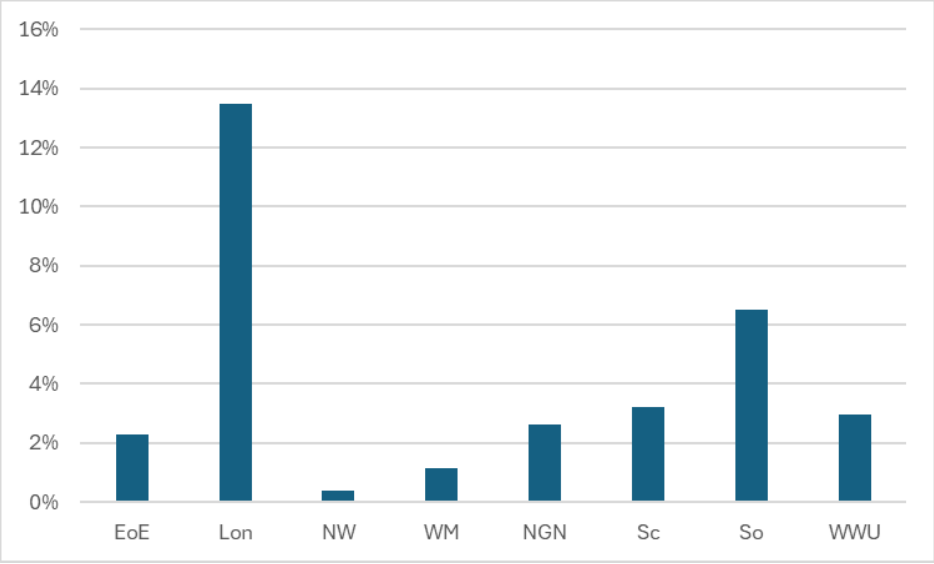
[60] We also make regional factor adjustments to historical costs in the modelling, but we do not present them here as they do not directly affect RIIO-GD3 allowances.

Figure 6: Comparison of regional factor adjustments between RIIO-GD3 and RIIO-GD2 (£m, 2023/24 prices)[61]



5.73 Figure 7 summarises the value of our proposed pre-modelling adjustments for regional and company-specific factors in RIIO-GD3.

Figure 7: Regional factor and company-specific factor adjustments by GDN as a percentage of submitted modelled totex



Regional labour

Background

5.74 In our Draft Determinations we made regional labour adjustments (RLA) to account for the difference in efficient labour costs between GDNs due to

[61] The RIIO-GD3 data includes the Network Specific Factors claims for London and Southern.

geographical location. These pre-modelling adjustments were calculated using Office for National Statistics (ONS) Annual Survey of Hours and Earnings (ASHE) wage data to construct different labour indices, using Standard Occupational Classification (SOC) codes.[62] In our Draft Determinations, we proposed maintaining the RIIO-GD2 approach, adjusting the GDNs serving the London and South-East regions, based on five years of historical data.

Final Determination summary

Design	Final Determination	Draft Determination
Adjustment implemented	Pre-modelling adjustment based on a three-region Regional Labour Wage index, reflecting relative costs of labour in different areas	Same as FD
Value of adjustment	Adjustment indices of 1.22 for the London region and 1.05 for the South East region, with Elsewhere set to 1.00	Same as FD
Data source	ONS two-digit SOC codes	Same as FD
Period of historical data used	Five years of historical data	Same as FD
Areas applied to	East of England (Cadent), London (Cadent) and Southern (SGN), based on their share of the London and South-East populations	Same as FD
Cost categories adjusted	Total Work Management, Emergency, Repair, Maintenance, Other Direct Activities, Training & Apprentices, LTS Pipelines & Storage Entry, Connections, Reinforcement, Governors, Other capex and Repex.	Same as FD
Other adjustments	No contractor uplift or additional National Insurance contributions allowance applied	Same as FD

Final Determination rationale and Draft Determination responses

5.75 We have decided to implement the three-region regional labour wage adjustment, as proposed in our Draft Determinations. We consider that the wage differential between London and the South-East and the rest of Great Britain is wide enough to warrant a three-region adjustment (London, South-East, Elsewhere) in our benchmarking. We note that the wage differential is narrowing, and the case for the South-East is now more marginal. We have decided that it is still justified

[62] SOC is a classification of occupational information for the UK published by the ONS: https://www.ons.gov.uk/methodology/classificationsandstandards/standardoccupationalclassificationsoc

because, alongside London, it is the only region that, for each of the past five years, has tracked above the national average of that year.

5.76 We have decided to use regional labour indices based on two-digit SOC data for the past five years, consistent with our Draft Determinations proposal. We think this approach is preferred because it strikes the right balance between granularity of data and a robust sample size. We have decided to make pre-modelling cost adjustments to the same 12 activities in our DD as we have not been presented with compelling evidence to change our approach.63 Further detail on consultation responses relating to these areas and our assessment of each of these areas is set out in the relevant subsections below.

5.77 Compared with RIIO-GD2 the standardised adjustment indices[64] applied to GDNs decrease slightly for all three affected GDNs. The RIIO-GD3 standardised adjustment indices are presented in Table 20 below (all other GDNs receive no RLA as they do not cover the London or South-East population).

Table 20: RIIO-GD3 standardised labour indices

GDN	**Labour index**
EoE	1.01
Lon	1.17
So	1.09

5.78 In our Draft Determinations, we stated that we considered our proposed approach coherently brings together the interacting components of the regional wage adjustment, notably: the data source used (two-digit or three-digit SOC),65 the time period of historical data and the regional boundaries. We continue to think that our approach to these interacting components is coherent for the reasons given in the sections below. In summary, we consider that two-digit SOC codes with five years of historical data is the most robust approach to calculating the indices. Our assessment of this data, in turn, supports applying a three-region adjustment.

[63] The 12 cost areas are: Total Work Management, Emergency, Repair, Maintenance, Other Direct Activities, Training & Apprentices, LTS Pipelines & Storage Entry, Connections, Reinforcement, Governors, Other Capex and Repex.
[64] We convert the regional labour indices to GDN-specific indices weighted by the region's share of the GDN's population. These indices are used to make pre-modelling adjustments to labour costs, with a higher index representing a proportionately larger adjustment. All other GDNs receive no labour cost adjustment.
[65] The three-digit codes are more precise in occupations than two-digit codes but, as a consequence, have smaller sample sizes and some missing data.

Data source

5.79 We have decided to maintain the use of two-digit SOC code data to calculate the RLA adjustment.

5.80 In its response, WWU supported adopting three-digit rather than two-digit SOC codes to more accurately reflect the workforce and avoid over-rewarding with adjustments as per RIIO-GD2. The three-digit codes are more precise in occupations but, as a consequence, have smaller sample sizes and some missing data. WWU proposed a methodology to estimate what it considered to be minimal missing data. As part of CAWG discussions, Cadent proposed an alternative imputation approach for missing three-digit data.

5.81 In contrast to WWU, both Cadent and SGN supported the two-digit approach. Their arguments focused on the additional volatility and data quality issues with a three-digit approach and the historical precedent of using the two-digit approach.

5.82 We continue to consider that the two-digit approach strikes the right balance between granularity of data and a robust sample size. While we welcome the engagement from the GDNs on this topic, we are concerned that the additional volatility with three-digit data (and the necessary imputation for missing data) can lead to regional patterns that go against both the two-digit results and other sources of evidence. We also note that WWU did not include an assessment of appropriate regional boundaries as part of its proposal or provide any narrative to explain the results compared with other sources of evidence. In addition, we note that, owing to sample sizes, the ONS necessarily includes some imputation in producing the SOC data and we are wary of adding a further layer of imputation beyond that.

Period of historical data used

5.83 We have decided to continue to use five years of historical data to calculate the RLA adjustment.

5.84 In its response to Draft Determinations, WWU continued to consider that the adjustments should reflect the reducing regional wage differences post-Covid, proposing that a three-year average of historical data should be used to calculate the RLA for RIIO-GD3. It argued that a five-year average, which includes Covid and pre-Covid years, would artificially inflate the wage adjustment, and not fully reflect the changes in working behaviour post-Covid.

5.85 In contrast, Cadent and SGN were supportive of a five-year average, arguing that such an approach would not be distorted by short-term fluctuations. Both GDNs

considered that the reduction in the regional wage differential for 2023 was an outlier, and a longer-term period would lessen its impact on the adjustment.

5.86 We continue to think that five years' data helps mitigate potential issues with short term fluctuations that may not reflect changing labour cost fundamentals. In contrast, short timeframes may be more susceptible to these variances and this could unduly affect the value of the RLA adjustment. We note for instance, that, over the past five years, 2023 data appears to represent an outlier to the general trend. Averaging over a shorter time period would give more weight to 2023, which may reflect a short-term fluctuation rather than a long-term trend. A longer time period helps mitigate the influence of any potential outliers.

5.87 We also note that WWU has largely considered the issues of timeframes in isolation, but our approach draws direct links between our decisions on the timeframe, the data source and regional boundaries.

Regional boundaries

5.88 We have decided to maintain the three-region adjustment (London, South-East, Elsewhere) based on the existing boundaries.

5.89 In response to Draft Determinations, Cadent and SGN each provided further evidence to support their proposed changes to the regional boundaries covered by the labour adjustment. Cadent's proposal was to extend the South-East boundary to cover some parts of the East of England, referred to as its East of London adjustment proposal. It claimed that some counties in this region, bordering London, experience similar wage pressures to the South-East region. SGN suggested that the adjustment should separately cover Scotland, claiming it experiences higher than average wages.

5.90 We have reviewed the further evidence provided by Cadent in its response to Draft Determinations. We acknowledge that Cadent has demonstrated that general earnings data is well-correlated with the GDN-specific labour costs. However, we still consider that the East of London area broadly tracks at, rather than above, the national average, and that there has been some recent convergence in regional wage rates against historical levels.

5.91 We note that Cadent's case for East of London is based on its own re-weighting of the national average rather than the ONS-provided UK average that we use throughout our assessment.[66] In contrast, based on the ONS methodology, the

[66] As the data is collected by the ONS, we prefer to use its calculations where they are available.

South-East is the only other region (alongside London) that, for each of the past five years, has tracked above the national average of that year. It has done this despite some recent convergence in regional wage rates against historical levels.

5.92 Fundamentally though, Cadent has not addressed our concern that, given the spread of wage levels among local authority areas included in its East of London area, the case for the proximity to London driving higher wages across the three counties is weak. Cadent's response stated that the differential in wage levels among local authorities in the south-east that already receive a regional labour adjustment (RLA) are similar to those in the East of London area. But rather than seeking to address the issue of differential wage rates (perhaps by focusing on fewer local authority areas within the existing adjustment), it seeks to extend this approach to a wider geographical area (East of London).

5.93 Cadent's approach to support an East of London adjustment relies on general earnings, which further divorces the adjustment from the GDN-specific earnings based on two-digit SOC codes. As noted above, two-digit SOC codes have been challenged by some GDNs as not sufficiently reflective of GDNs' labour requirements. Any use of general earnings would weaken the link to GDN-specific earnings that better reflect (albeit imperfectly) the labour costs that GDNs face.

5.94 Though we acknowledge that the South-East region contains diverse wage rates, we consider the existing RLA to be a pragmatic approach based on the data collection approach from the ONS,[67] balancing accuracy and proportionality. We do not think that reducing accuracy by extending the adjustment to a wider area with diverse wage rates represents an improvement to the RLA.

5.95 We have reviewed the further evidence provided by SGN in its response to Draft Determinations. SGN claimed Scotland experiences unique impacts such as higher taxation, and gas and electric engineering investment driving labour demand in a sparse region. It also claimed that Scotland wages are above the national average. This is based on taking an unweighted average of the GB regions rather than the ONS-derived UK average that we use throughout our calculations. In its response to Draft Determinations, Cadent supported our rejection of the claim because Scotland is not reliant on the same labour market as London, in contrast to its own East of London extension proposal.

[67] The ONS provides two-digit SOC data from ASHE based on International Territorial Level (ITL) statistical regions, including the South-East, bordering London to the west, south and south-east. The other ITL region bordering London (to the north and north-east) is the East ITL, which also covers East Anglia.

5.96 We have decided to adjust only London and the South-East, consistent with our Draft Determinations position. Based on ONS data, these are the only two regions that, for each of the past five years, have tracked above the national average of that year. It is also important to hold a high evidential bar for allowing adjustments to modelled allowances due to information asymmetry. Companies are more likely to raise factors that lead to higher costs than lower costs.

Cost categories adjusted

5.97 We have decided to continue to apply the labour adjustment to the same cost activities as for RIIO-GD2, consistent with our Draft Determinations position. We have decided to reject SGN's proposals that the RLA should apply to 100% of work management (up from 44%) and 50% of business support (up from 0%). It argued that, as a non-contiguous network, it has limited ability to place labour away from core areas of its operations without incurring significant additional travel and accommodation costs. We don't think this was well evidenced, given SGN provided no numerical evidence to support its case, and therefore have decided not to adopt this proposal. We note there was no support from other GDNs.

Separate contractor adjustment

5.98 We have decided not to make a separate adjustment for contractor labour within the RLA. We continue to base our RLA on a notional labour basis to avoid rewarding a potentially inefficient company for its labour choices. We do not make a distinction between direct and contractor labour in calculating normalised labour costs. The adjustment index is applied to normalised labour costs to calculate the value of the RLA for each GDN.

5.99 In response to Draft Determinations, SGN submitted further evidence to support its proposed separate adjustment for contractor labour, to be applied to its Southern network. Based on this additional evidence, it also revised the level of the adjustment from 10% to 6% and stated it should be applied to self-employed contractors only. Among the additional evidence was a consultancy report seeking to explain why Southern needs to employ more contractor labour (with evidence suggesting it is typically more expensive than direct labour) and that SGN is a price taker given the tight labour market in its Southern region.

5.100 While we welcome engagement from SGN in seeking to address the concerns we set out in our Draft Determinations, we do not support a separate contractor adjustment. Fundamentally, we continue to consider that a separate contractor adjustment has the potential to reward GDNs for an inefficient labour model as

they may not be motivated to take steps to secure the most cost-effective labour where a contractor adjustment is available. Applying one adjustment to all labour on a notional basis avoids this. WWU supported our position. Furthermore, we did not receive any comparable or supporting claims regarding the use of contractor labour from Cadent, which also operates within and around the London area and so would be similarly impacted by the tight labour market conditions that SGN cited to support its claim.

5.101 We also have concerns with the methodology proposed by SGN for calculating the premium. Notably, the size of requested adjustment changed from SGN's Business Plan submission to its Draft Determinations response and then again in response to an SQ on the matter. We consider the approach proposed by SGN overestimates the 'premium' by essentially treating all employed labour as direct (rather than also including employed contractor labour).[68] In addition, its application relies on a single point in time survey (of self-employed contractor labour share), without supporting data, and with the resulting adjustment applied to the whole RIIO-GD3 period.

5.102 Our preferred approach continues to be applying the RLA to two regions, London and the South-East, with no adjustment for everywhere else. Despite the decreasing differential from the national average, this approach recognises the labour cost pressures for the South-East region which includes some of SGN's Southern GDN. The ASHE data we use to calculate the RLA covers employed labour, irrespective of whether it is direct or contractor labour. We don't consider there to be a robust case for applying an additional adjustment relating to the use of self-employed contractor labour.

National Insurance adjustment

5.103 We have decided not to make an addition to the RLA to account for National Insurance contributions. We did not take a position on this for Draft Determinations but sought views from stakeholders.

5.104 In response to Draft Determinations, Cadent submitted further evidence to support an addition to the existing RLA. It claimed that employers in higher wage

[68] ASHE collects data on employed labour, which includes employed contractors as well as directly employed staff. In contrast, SGN's premium compared direct labour with contractor labour (both employed and self-employed). Any premium applied to ASHE data (used in the existing RLA) should reflect the fact that ASHE data already includes some of this purported premium in the contractor share of the employed workforce. That is, any calculated premium comparing employed and self-employed labour (for use in the RLA) should be lower than that derived from one comparing direct and contractor labour.

areas make relatively higher National Insurance contributions than those in lower wage areas, but that this difference is not captured by the existing RLA, which is based on wage data.

5.105 Cadent explained that its proposal would not require a separate data collection exercise, and that changes to the contribution thresholds and rates announced in the Autumn 2024 Budget could be accommodated in a separate post-modelling adjustment. SGN supported Cadent's proposal, while NGN considered the claim to be immaterial and not proportionate to the additional complexity, noting the magnitude would depend on exact National Insurance framework in place during RIIO-GD3. NGN's response suggested that the regional difference would only be material at "infeasibly low salaries."

5.106 We have decided not to make an addition to the RLA for National Insurance contributions. We have concerns with the proposal to apply the adjustment to all labour rather than only directly employed labour, for which GDNs are directly liable for the National Insurance contributions. This may risk overstating the level of costs faced by the companies for National Insurance contribution.

5.107 We consider the low materiality of the claim to be disproportionate to the complexity required to make a change that does not reflect the current (from 2025) National Insurance contributions regime. By way of context, the adjustment would not pass the company-specific factor materiality threshold (0.5% of gross unnormalised totex) for the most affected GDN (London). It is not an adjustment we have made historically, with the regional impact now lower than historically. On this basis, we do not think that Cadent has presented compelling evidence that such a change is appropriate and proportionate for RIIO-GD3. Nor has it appropriately quantified the size of the required adjustment for the workforce it directly employs.

Urbanity

Background

5.108 In our Draft Determinations, we proposed making two types of cost adjustments to account for urbanity factors, covering labour productivity and reinstatement costs. We applied a pre-modelling adjustment to emergency, reinforcement, connections and repex costs to reflect lower labour productivity associated with

working in the London area, based on an assumed 1.15 London urbanity productivity factor.[69]

5.109 We also recognised the additional reinstatement costs associated with working in highly dense urban areas. We treated these costs as labour costs and adjusted them for particular opex activities based on the indices used to make regional labour adjustments.

5.110 In their consultation responses, GDNs commented on the urbanity adjustments, focusing on the value of cost adjustments required to account for the urbanity impacts on their networks.

Final Determinations summary

Design	Final Determination	Draft Determination
Adjustment implemented	Pre-modelling adjustment based on a single 'Nature of Streets' adjustment, replacing two separate urbanity adjustments proposed at DD, reflecting relative costs of operating in urban environments in London.	Separate urbanity productivity and urbanity reinstatement adjustments applied.
Value of adjustment	1.18 adjustment index for operations serving the London population.	1.15 adjustment index for productivity for operations serving the London population RLA indices applied to reinstatement costs.
Areas applied to	East of England (Cadent), London (Cadent) and Southern (SGN), based on their share of the London population.	Same as FD.
Cost categories adjusted	All costs for Repairs, Connections, Reinforcement and Repex.	Productivity: labour costs for Emergency, Connections, Reinforcement and Repex; Repex plant hire. Reinstatement: reinstatement costs for Emergency, Repairs, Maintenance, Other Direct Activities and Repex.

Final Determinations rationale and Draft Determinations responses

5.111 We have decided to accept Cadent's proposed Nature of Streets adjustment, in place of the urbanity adjustments for productivity and reinstatement we proposed

[69] This London index was applied to the GDNs operating in the London area, weighted by their share of the London population. The resulting GDN-specific indices were then used to adjust relevant cost categories, based on multiplying costs by the index and deducting the difference, pre-modelling.

in our Draft Determinations. We consider the Nature of Streets approach to be a more robust approach to accounting for the costs of operating in the dense, urban environment of London than the urbanity adjustments we proposed in our Draft Determinations, while achieving comparable outcomes in terms of ensuring comparability between networks in the cost benchmarking. Alongside this, we have decided to approve the complementary Network Specific Factors claim that covers the impacts of population and property density not accounted for by Nature of Streets (see company-specific factors, below).

5.112 We have revisited Cadent's original evidence and the further evidence it submitted following Draft Determinations. Cadent's justification was supported by detailed analysis, covering the drivers of additional costs and supporting the proposed cost areas to be adjusted. Upon further review, we are satisfied that Cadent has addressed the concerns that we raised in Draft Determinations, particularly with respect to the robustness of the evidence used to support its proposal compared with the existing adjustments.

5.113 The degree of the proposed adjustment is supported by an external consultancy report on the impacts on working in London on utility networks, drawing on evidence from Cadent and SGN.[70] It identified the drivers of the additional costs of operating in London as: the location of assets, type of carriageway surface and road structure, underground utility congestion and large diameter mains. The evidence shows a 15.5% productivity differential between London and non-London areas that translates to a standardised adjustment index of 1.183 for operations serving the London population. This is applied to all costs activities that involve excavation and reinstatement of streets to construct and maintain underground assets in London: Repairs, Connections, Reinforcement and Repex.

5.114 In contrast, the previous urban productivity factor of 15% was based on a far more limited dataset (from SGN) that dates from before RIIO-GD1. Cadent also makes the case that the previous approach of applying labour indices (which reflects a price effect) to calculate additional urban density-related reinstatement costs appears illogical. The Nature of Streets approach updates the evidence used to calculate the productivity factor and applies it in a more robust way to the cost categories affected by the urban environment of London.

[70] NERA Economic Consulting, Arcadis - Understanding the Baseline Level of Efficiency in London (31 October 2019). Available: here

5.115 Adoption of this approach also brings consistency with an equivalent approach applied in RIIO-ED2 that was based on the same underlying evidence of the increased costs associated with operating in London.

5.116 We have applied the adjustment to the London, Southern and East of England GDNs in proportion to their share of the London population, with no other GDN receiving an adjustment. The resulting standardised adjustment indices to be applied to the three GDNs are in Table 21.[71]

Table 21: RIIO-GD3 standardised urbanity indices for the Nature of Streets adjustment

GDN	**Urbanity index**
EoE	1.01
Lon	1.14
So	1.05

5.117 SGN's response continued to support either an increase to the productivity adjustment factor for its Southern network or to apply Nature of Streets. In a response to an SQ, SGN proposed extending Nature of Streets to also cover non-routine maintenance but did not provide evidence to support this. We have limited the Nature of Streets adjustment to the areas proposed by Cadent, namely: Repairs, Connections, Reinforcement and Repex, all of which are cost areas that were adjusted under the existing urbanity adjustments. In our view, Cadent has provided strong evidence that the impacts of operating underground extend beyond labour costs to all costs in these categories.

5.118 WWU supported maintaining the existing urbanity adjustments, expressing concern that more cost areas are adjusted for the effects of urbanity than are adjusted for sparsity. We discuss the extension of the sparsity adjustment to repex in the Sparsity section, below.

5.119 Our decision to apply the Nature of Steets approach increases the urbanity adjustment compared with the proposed approach in our Draft Determinations. We think this is justified because the Nature of Steets adjustment is based on a more robust methodological approach, with more up-to-date data than the existing adjustments. Cadent has provided a well-evidenced case for its application to GDNs that is equivalent to its application for the DNOs in RIIO-ED2.

[71] For example, for Cadent-Lon, the normalised Repairs costs are reduced by 14% (1-1.14) pre-modelling.

Sparsity

Background

5.120 In our Draft Determinations, we proposed cost adjustments for sparsity factors, accepting that there are differences in costs associated with working in relatively sparse areas for the Emergency and Repairs cost activities. This involved applying a 13% adjustment to WWU's costs (as in RIIO-GD2) and scaling the sparsity indices for other GDNs accordingly.[72]

5.121 In our Draft Determinations, we did invite coherent proposals to draw together the interrelated elements of the cost activities adjusted, the evidence for the scale of the adjustment and the threshold for a local authority area to be considered sparse.

Final Determinations summary

Design	Final Determination	Draft Determination
Adjustment implemented	Pre-modelling adjustment based on a sparsity index, reflecting relative costs of operating in sparse areas	Same as FD
Definition of sparsity	Upper quartile (UQ) most sparse Local Authority areas	Above average sparsity Local Authority areas
Value of adjustment	Adjustment indices of 1.25 for Emergency and Repairs; 1.08 for Repex Costs scaled for each GDN based on share of UQ sparsity relative to WWU	Adjustment index of 1.15 for Emergency and Repairs Costs scaled for each GDN based on share of above average sparsity relative to WWU
Areas applied to	All GDNs	Same as FD
Cost categories adjusted	Emergency, Repairs, Repex	Emergency and Repairs only, not applied to Repex

Final Determinations rationale and Draft Determinations responses

5.122 We have decided to apply an adjustment to account for the additional costs associated with operating in sparse locations across all GDNs, broadly in line with our Draft Determinations position. We have made changes to the underlying methodology used to calculate the value of the sparsity adjustment, in response to further evidence received through consultation responses. We think these changes result in an approach that better mirrors the urbanity adjustments we

[72] The approach was based on the GDNs' population shares of sparse local authority areas with gas network coverage, scaled to the maximum 13% adjustment for WWU as the sparsest GDN. London received no sparsity adjustment.

have made, resulting in an overall more consistent approach to regional factor adjustments in our FD modelling.

5.123 In response to Draft Determinations, GDNs provided further evidence to address each of the components for which we were seeking a coherent proposal: measure of sparsity, cost areas adjusted and the extent of adjustment. We cover each of these below.

Measure of sparsity

5.124 We have decided that upper quartile sparsity is a more appropriate measure of the sparsity challenges faced by GDNs than above average sparsity. In its Draft Determinations response, Cadent considered there to be a lack of justification for changing the measure. However, WWU provided extensive support for changing the measure of sparsity from above average to upper quartile. It demonstrated that the upper quartile measure better reflects true remoteness, by comparing it with ONS's sparsity measure and urban/rural classification for England and Wales. As these ONS measures do not cover Scotland, WWU proposed that adopting an upper quartile definition of sparsity was a pragmatic approach to improving the measurement of sparsity, in the absence of being able to apply the ONS data to the whole of GB. We agree with this position.

5.125 The use of upper quartile definition of sparsity has the effect of increasing the level of adjustment for GDNs with a higher proportion of remote populations, while reducing it for those that contain more urban areas (including East of England and Southern which both receive an urbanity adjustment). We consider that this measure better reflects the sparsity effects that increase GDNs' costs. It also brings the measure more in line with the urbanity adjustment by focusing more on the ends of the population density distribution.

Cost areas adjusted

5.126 We have decided to apply the sparsity adjustment to Emergency, Repairs and Repex. Since Draft Determinations, we have extended the adjustment to include repex, based on our review of further evidence provided by the GDNs. We have rejected proposals to extend the adjustment to Maintenance and Business Support.

5.127 WWU's response provided quantitative evidence for a repex adjustment including a U-shaped curve showing increasing costs in both the highest density and lowest density areas. It also provided data showing a correlation between higher tender rates and more sparse areas. NGN presented analysis to show a correlation

between GDN's average repex unit cost and the sparsity index, noting the correlation was comparable to other areas where Ofgem does apply an adjustment (eg repex for urbanity). Cadent opposed the extension to repex, considering that, unlike the exiting adjusted costs areas of mergency and Repairs, repex is proactive rather than reactive, with the potential to minimise the impact of sparsity through planning.

5.128 We consider that NGN and WWU have presented strong case where they triangulated evidence to support extending the adjustment to include repex. This addresses the challenges we posed in our Draft Determinations. To recognise the different nature of repex activities, which are less reactive in nature than Emergency and Repairs, we are using a lower adjustment index value for repex, as proposed by WWU (see the 'Level of adjustment' section below for further details).

5.129 We have rejected the proposed extension to Maintenance, principally from WWU and supported by NGN and SGN. We considered there was weak quantitative justification, with any U-shaped relationship driven more by the densely populated areas than sparsely populated ones. We also note that the proposed low level of the adjustment to WWU's costs of 4.7% is indicative of a weak relationship between Maintenance costs and sparsity.

5.130 We have rejected the proposal to extend the adjustment to cover Property Management (depots and stores) which was supported by WWU and NGN. NGN did not provide any evidence to support its claim. We consider that the claim from WWU may be more driven by the geographic (non-circular) shape of WWU's area rather than sparsity. Any extension of WWU's proposed adjustment to other networks with different geographic shapes has the potential to over-reward other networks with relatively fewer depots. We consider WWU's proposal is more appropriately considered as a company-specific factor that is particular to WWU, rather than something driven by sparsity across GB. As a company-specific factor, it would fail the materiality threshold criterion at 0.3% of gross unnormalised totex, well below the minimum of 0.5%.

Level of adjustment

5.131 We have decided to apply two different adjustment factors for additional costs: 19.7% for Emergency and Repairs, and 7.5% for repex.

5.132 WWU provided updated data to support the Emergency and Repairs adjustment factors, with those we were using in our Draft Determinations initially derived from a 2007 report. For example, for Emergency, WWU's evidence was based on

taking a conservative approach to estimating the additional labour costs, by comparing WWU's sparsest areas with its non-sparse areas rather than more densely populated areas. We are satisfied that the factors are independent of impacts relating to HSE regulations on fatigue, based on WWU's responses to follow-up questions. It also applies the lower derived adjustment factor (Repairs) to both Emergency and Repairs. We agree that this approach is reasonable and conservative.

5.133 WWU has provided well-triangulated evidence to support the adjustment factor for the extension to repex. Again, it takes a conservative approach to estimating the additional labour costs for repex, comparing WWU's sparsest areas with its non-sparse areas rather than more densely populated areas. The comparisons used to calculate the proposed adjustment factor included evidence based on drive times, tender data and industry-wide top-down sparsity impact estimates for the notional GDN. By focusing on drive times rather than project duration, WWU explained that the calculated adjustment factor is exclusive of complexity impacts on repex.

5.134 We have rejected SGN's proposal for an additional Fatigue adjustment for Emergency, Repair and Maintenance. It did not provide any additional evidence in response to Draft Determinations. We note the revisions to the sparsity measure, cost areas adjusted, and adjustment factors would result in a similar sparsity adjustment to that sought by SGN for Scotland to account for Fatigue impacts.

5.135 As the adjustment factors are based on WWU's evidence, we continue to scale the adjustment of other GDNs based on their level of sparsity relative to WWU. Though, when using the upper quartile measure of sparsity, Scotland is now the sparsest GDN by this measure, and therefore now has the largest sparsity adjustment factor. For consistency with the other regional factors, we convert the percentage adjustments into standardised sparsity indices, which are presented in Table 22 below.

Table 22: RIIO-GD3 standardised sparsity indices

GDN	**Emergency and Repairs**	**Repex**
EoE	1.10	1.04
Lon	1.00	1.00
NW	1.02	1.01
WM	1.08	1.03
NGN	1.17	1.06

GDN	Emergency and Repairs	Repex
Sc	1.28	1.09
So	1.03	1.01
WWU	1.25	1.08

5.136 We apply the respective standardised sparsity indices to normalised labour costs for the relevant cost areas to calculate the sparsity adjustment for each GDN.

Company-specific factors

Background

5.137 The GDNs submitted several company-specific factors, which they suggested we take account of prior to modelling. In our Draft Determinations, we rejected all of them because they did not meet our criteria for a valid company-specific factor.

5.138 In our Draft Determinations we applied the following criteria for assessing company-specific factor claims, requiring that each individual claim should:

- have a materiality threshold of 0.5% of a GDN's gross unnormalised totex;
- be unique in nature to a single or small number of GDNs;
- be outside the control of the GDN;
- be excluded from the cost drivers used in the econometric modelling; and
- be excluded from other adjustments such as regional factors.

Materiality threshold

Final Determinations decision and rationale

5.139 We continue to consider that a materiality threshold is an appropriate criterion for company-specific factor claims. Though we accept that when a single claim comprises multiple elements, it may be appropriate to assess those elements collectively against the materiality threshold.

5.140 We received responses from three stakeholders concerning the materiality threshold. SGN and Cadent stated that similar claims should be grouped together when applying the materiality threshold, most notably in reference to Cadent's Network Specific Factors claim. We agree that this may be appropriate in some circumstances and explain further in our assessment of Cadent's Network Specific Factors claim, below.

5.141 SGN proposed lowering the threshold to 0.2% of gross unnormalised totex, while NGED suggested that the materiality threshold should not be considered if the claim has merits against other criteria. NGED added that a failure to account

properly for company-specific factors can have an impact on all networks in the resulting econometric model.

5.142 We agree that we should properly account for company-specific factors in pre-modelling adjustments to maintain the integrity of the model. The company-specific factors criteria are designed to help us achieve this. Absent a materiality threshold, there would be no limit on the number of claims we receive for different adjustments that could be of limited materiality, which could lead to inconsistencies in adjustments, undermining the principles of our top-down totex benchmarking approach.

5.143 We note that SGN did not provide a rationale for its proposed 0.2% threshold beyond it being below the value of its company-specific factors claims that we rejected in Draft Determinations. We consider that the well-established 0.5% threshold continues to be appropriate as it sets a clear, proportionate requirement, and is consistent with other areas of the price control (eg re-openers). If removed, there may be greater inconsistency across the types of activities that different GDNs submit claims for, making comparability within the benchmarking more challenging and the cost review process overly burdensome. The materiality threshold has not been challenged by other GDNs.

5.144 WWU agreed with our original assessment to reject the company-specific factors claims but did not provide justification for its position.

Cadent - Network Specific Factors

Background

5.145 As noted in the urbanity section above, Cadent proposed a Network Specific Factors claim to account for the impacts of population and property density not accounted for by its 'Nature of Streets' proposal. This would apply an adjustment to only its London network to reflect what it claims are:

- higher operational property costs and property development-driven maintenance work;
- higher emergency costs due to longer job times, necessary alternative shift patterns and greater use of locksmiths;
- higher costs to maintain unique underground assets; and
- costs to comply with unique transport schemes, designed to reduce congestion and emissions.

5.146 In our Draft Determinations, we proposed rejecting the claim on the basis that the individual components were below the materiality threshold or were captured by existing urbanity adjustments (longer emergency times).

Final Determinations summary

Design	Final Determination	Draft Determination
Company-specific factor implemented	Network Specific Factors	None
Networks applied to	London (Cadent), Southern (SGN)	n/a
Value of adjustment	London (Cadent) - £27m Southern (SGN) - £17m	n/a
Cost categories adjusted	Emergency, Repairs, Maintenance, Business Support, Repex	n/a

Final Determinations rationale and Draft Determination responses

5.147 We have decided to accept Cadent's Network Specific Factors request that covers the impacts of population and property density not accounted for by Nature of Streets. We have accepted all components except those relating to low emissions zones (LEZ and ULEZ). Alongside this, we have decided to replace the two urbanity adjustments with a single Nature of Streets adjustment to reflect the materiality higher efficient costs of working underground in London owing to the make-up of streets (see Urbanity, above). We have also applied the adjustment to SGN's Southern network in proportion to its relative share of the London population.

5.148 Cadent provided a detailed response to our rejection in Draft Determinations. Based on Cadent's consultation response, we have revisited the evidence including that in Cadent's Business Plan and consultation response as well as our assessment of equivalent claim components in the past. In particular, Cadent made a strong case that the components of the Network Specific Factors proposal should be assessed collectively, which would lead to the claim meeting all company-specific factor criteria.

5.149 Having reviewed the evidence, we consider that the Network Specific Factors claim does cover distinct areas to those covered by Nature of Streets that also affects GDN's operating in London. Cadent provided extensive and well-justified evidence, including in response to follow-up questions, explaining that its claim is relatively conservative based on the evidence. Cadent has also demonstrated how

it can be applied to the modelling suite to avoid double counting where Nature of Streets and/or labour adjustments cover the same cost areas.

5.150 We consider that the Network Specific Factors claim contains components that collectively addresses impacts from London's property and population density. As a complementary replacement to an existing urbanity adjustment that adjusted multiple cost areas, we consider it is appropriate to treat it as a single proposal, which consequently passes the materiality threshold. Treating the areas collectively is consistent with our equivalent RIIO-ED2 decision.

5.151 However, we have excluded LEZ/ULEZ costs from the adjustment. While we note that we allowed some such costs as part of RIIO-GD2 and RIIO-ED2, that was based on the timing of the introduction of the schemes relative to the respective price controls. We consider that the timing of RIIO-GD3 is such that GDNs should have had time to adapt to these requirements. We also note that GDNs receive funding for EVs/charging points and that accepting this element of the claim could disincentivise the decarbonisation of GDNs' fleets.

5.152 SGN's Draft Determinations response also supported the Network Specific Factors adjustment, proposing that we should treat the components collectively for assessing the materiality, as for RIIO-ED2. SGN subsequently submitted its own Network Specific Factors claim for its Southern network in response to an SQ.

5.153 We have some concerns over the robustness of SGN's submission, which claimed £36m over RIIO-GD3. SGN adopted a different calculation approach to Cadent and generally provided far less justification for its figures. For example, SGN's emergency job time claim was based on additional FTE labour in London. In contrast, Cadent calculated a more conservative additional job time factor, applied to normalised labour costs for the emergency activity, to quantify the claim.

5.154 To recognise that the Southern GDN will also be affected by these additional costs (particularly the longer emergency times which was a component of the urbanity productivity adjustment but not Nature of Streets) we have used the same methodology to adjust both Cadent and SGN. In doing this, we have accounted for the fact that SGN Southern's operations covers a smaller share of the London population than Cadent's London network. We have only applied Cadent's claim proportionately to SGN where SGN has identified it is subject to an equivalent cost (eg SGN does not have any local authority managed tunnels). As for Cadent, we have excluded the LEZ/ULEZ component of the claim. These modifications reduce the adjustment to the Southern GDN to £17m.

5.155 Cadent did not apply for an adjustment for its East of England network, which serves a small proportion of the London population, as the claim was below the materiality threshold. We have therefore not applied the Network Specific Factors adjustment to East of England.

SGN - Isle of Wight

Background

5.156 In our Draft Determinations, we rejected an SGN company-specific factor claim for the activities it needs to carry out on the Isle of Wight that it claimed are unique to SGN. We rejected it because it was below the materiality threshold. SGN claimed that the Isle of Wight has unique challenges arising from physical barriers to accessing the island which comes with several challenges that are not seen in other parts of mainland network operation.

Final Determinations decision and rationale

5.157 We continue to reject this claim, principally because it is below the materiality threshold. SGN's main response on this point was that the threshold should be lowered to 0.2% such that the claim is included in its allowances. As noted above, we consider that the current materiality threshold continues to be appropriate. At 0.3% of totex this claim is not marginal to the 0.5% threshold level.

5.158 Furthermore, SGN has not responded to the challenges from our Draft Determinations that it did not provide a full assessment of the claim against the company-specific factor criteria nor explain why the comparator used to quantify the claim was appropriate. It did not provide any new evidence in response to Draft Determinations.

SGN - Soil Types

5.159 We have decided to reject SGN's proposed Soil Type company-specific factor. We proposed rejecting it in our Draft Determinations owing to a lack of sufficient evidence. SGN has not provided any further evidence in response.

SGN - ULEZ

5.160 We have decided to reject SGN's proposed ULEZ company-specific factor. We proposed rejecting it in our Draft Determinations on the basis of low materiality and the fact that accepting it could disincentivise the decarbonisation of SGN's fleet. SGN did not provided any further evidence in response to our Draft Determinations.

5.161 As for this component of the Network Specific Factors claim, we consider that the timing of RIIO-GD3 is such that GDNs should have had time to adapt to these

requirements. We also note that GDNs receive funding for EVs/charging points and that accepting this could disincentivise the decarbonisation of GDNs' fleets.

Exclusions

5.162 Our starting point for cost assessment is to aim to assess costs using the totex regression model where possible. However, in some instances we have decided to exclude costs from the totex regression where there is a strong rationale for doing so. Where we have excluded costs from the regression, we have assessed them using either non-regression or technical assessment approaches. Choices around our cost exclusions and the consistency of our approach were a notable element of the responses we received to our Draft Determinations, particularly from the GDNs. We summarise and address this feedback below.

Cost exclusions for non-regression benchmarking

Background

5.163 In our Draft Determinations, we proposed to exclude seven categories cost activities from the regression and assess via non-regression benchmarking approaches. These were:

- Repex diversions;
- Streetworks;
- Multiple occupancy buildings;
- Growth governors;
- Smart metering;
- Land remediation; and
- Statutory Independent Undertaking (SIU).

5.164 In RIIO-GD2, we also excluded gas holder demolition costs from the regression and assessed through non-regression. This programme finished in RIIO-GD2, with no further funding being submitted in RIIO-GD3, except by SGN which requested £0.25m for ongoing site maintenance at Provan. We proposed to assess these costs as part of land remediation in our Draft Determination.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost categories excluded for non-regression benchmarking	Repex diversions, streetworks, MOBs, growth governors, smart metering, land remediation, SIUs	Same as FD

Design	Final Determination	Draft Determination
Cost categories excluded containing historical which were previously non-regressed	Gas holder demolition	Same as FD
Adjustments to value of exclusion	Loss of productivity (LOP) costs not included in value of streetworks cost exclusion (ie LOP costs remain in the regression)	LOP cost included within value of streetworks cost exclusion for Cadent and SGN (ie LOP costs assessed through non-regression)

Final Determination rationale and Draft Determination responses

5.165 We have decided to maintain our Draft Determinations approach to which categories of cost activities that we assess using non-regression benchmarking in our Final Determinations. We have made adjustments to reduce the value of the streetworks exclusions applied for Cadent and SGN, which is a change from our Draft Determination position. We think this results in more consistent adjustments between GDNs, improving the comparability of the regression benchmarking.

5.166 We received responses from each of the four GDNs relating to cost exclusions for non-regression benchmarking. Cadent and SGN were supportive of the cost activities we proposed to exclude in our Draft Determinations. NGN and WWU were broadly supportive of excluding costs in these categories but suggested there are material inconsistencies between GDNs in the value of costs that were being allowed for different GDNs, particularly for streetworks.

Streetworks exclusions

5.167 NGN and WWU argued that companies excluding more costs appear more efficient. Specifically, it was noted that Cadent and SGN included costs related to the loss of productivity within their overall streetworks, and these were then being excluded from the regression, increasing the overall value of the streetworks exclusion for these companies. They suggested that NGN and WWU would also experience these costs in practice, but had instead captured them within their costs of delivering opex, capex and repex workloads.

5.168 NGN and WWU provided loss of productivity costs related to streetworks as part of their Draft Determination consultation response. NGN also provided field-based administration costs and workloads related to streetworks as these were not

included within its original BP submission.[73] WWU has also provided a correction in its submission of streetworks costs due to an identified cost allocation error.[74]

5.169 We have further reviewed the submitted costs provided by all companies in relation to streetworks, following the companies' Draft Determination responses. We agree that there is misalignment in the reporting of streetworks between companies within their original BPDTs, especially in relation to loss of productivity and field-based administration costs. We have also observed that the methodology used to derive loss of productivity costs was inconsistent between companies.

5.170 We have decided to remove costs associated with loss of productivity from the value of the streetworks costs excluded from the regression. In other words, we are now assessing loss of productivity costs, submitted within each companies streetworks costs within their BPDTs, within the totex regression. This approach aligns with one of the options put forward by two of the GDNs.[75]

5.171 We have included these costs within the regression analysis as we think:

- it ensures a more uniform treatment of streetworks loss of productivity costs across all companies while factoring in inconsistencies in methodology and reporting;
- it acknowledges that it is hard to forecast streetworks loss of productivity costs due to potential overlap with other activities and cost areas;
- most of the streetworks loss of productivity costs are linked with repex and repairs activities, which form part of the regression analysis; and
- it ensures no misalignment is introduced in the analysis by using NGN's and WWU's loss of productivity costs submitted much later in the process.

5.172 On further review of NGN's re-submitted streetworks field-based administration costs and workloads we have decided to include these in the non-regression analysis and remove them from the regression analysis. NGN is the only GDN which had not submitted any costs or workloads under this sub-category of streetworks as part of their BPDT submission making it an outlier. However, it

[73] NGN submitted an additional £10.3m in RIIO-GD2 and an additional £13.8m in RIIO-GD3 of field-based administration costs under streetworks.
[74] WWU resubmitted costs for two historical years, an additional £3.3m in 2022 and £5.4m in 2023 in RIIO-GD2 due to an error with alignment to its RRP.
[75] NGN in their presentation at the Gas Distribution Cost Assessment Working Group 22 meeting held on 12 August 2025, and WWU as part of their Draft Determinations response.

stated that these costs were implicitly contained within other areas of its totex cost submission, and therefore being assessed through the regression.

5.173 We have also decided to accept WWU's correction to 2022 and 2023 streetworks submission. The initial submission did not account for a correction that was previously made and submitted as part of their RRP submissions for the corresponding years.

5.174 NGN also argued that there are large variations in IT & Telecoms (IT&T) business support exclusions (excluding those related to the DPLA) between GDNs with NGN showing minimal exclusions in this area. We have decided to assess IT&T costs within the regression in our Final Determinations.

5.175 For further details on the cost activities assessed via non-regression benchmarking approaches please refer to the non-regression analysis section further down in this chapter.

Cost exclusions for technically assessed projects and bespoke outputs

Background

5.176 For costs which are bespoke in nature or relate to specific projects or outputs, we consider technical assessment to be the most appropriate approach to determining efficient costs. Where activities fall into this category, we exclude the costs from the regression. Activities that have a specific policy mechanism attached to them are referred to as bespoke outputs.

5.177 In our Draft Determinations, we rejected a number of proposals made by GDNs to exclude certain costs from the regression. This included costs for Robotic Intervention, Disconnections and other major repex and capex projects.

Final Determinations summary

Design	Final Determination	Draft Determination
Costs activities excluded for technical assessment	Cyber opex and capex, ALD, DPLA (Cadent only), large rechargeable LTS diversions, iron stubs, PSUP capex, major capex and repex projects, electric vehicles, robotic intervention, GSIUR disconnections, IP/MP services (SGN only), other technically assessed costs for RIIO-GD1 and RIIO-GD2	Cyber opex and capex, ALD, DPLA (Cadent only), large rechargeable LTS diversions, iron stubs, PSUP capex, major capex and repex projects, other technically assessed costs for RIIO-GD1 and RIIO-GD2
Costs activities excluded for bespoke outputs	London Medium Pressure (Cadent, London)	London Medium Pressure (Cadent, London)

Design	Final Determination	Draft Determination
	Grays Medium Pressure (Cadent, London) Tinsley Viaduct (Cadent, East of England) Flow Weighted Average Calorific Value Metering Systems (Cadent, all networks) Full Site and System Rebuilds (SGN, all networks), including: - Glenmavis (Scotland) - Isle of Grain (Southern) - Welling PRS (Southern) South London Mains (SGN, Southern) WWU.7 - HS007 (WWU) WWU.9 - HS009 (WWU) WWU.9 - HS010 (WWU)	Grays Medium Pressure (Cadent, London) Tinsley Viaduct (Cadent, East of England) IP/MP services (SGN only) Full Site and Systems Rebuilds (SGN, all networks), including: - Glenmavis (Scotland) - Isle of Grain (Southern)

Final Determination rationale and Draft Determination responses

5.178 We have decided to exclude costs associated with the following projects and cost activities, and assess through technical assessment in our Final Determinations (exclusions apply to all networks unless otherwise indicated in brackets):

- Cyber opex and capex costs;
- Advanced leakage detection (ALD) costs;
- Digital Platform for Leakage Analytics (DPLA) costs (Cadent networks only);
- Large rechargeable LTS diversions;
- Iron stubs;
- PSUP capex;
- Major capex and repex projects;
- Electric vehicles;
- Robotic Intervention;
- GSIUR disconnections;
- Intermediate and medium pressure service (SGN Scotland and Southern); and
- Other technically assessed costs from RIIO-GD1 and RIIO-GD2 to ensure a consistent view for comparative benchmarking.

5.179 We have decided to exclude costs associated with the following projects and cost activities and assess as bespoke outputs in our Final Determinations (brackets indicate which company or network exclusion applies to):

- London Medium Pressure (Cadent, London network);
- Grays Medium Pressure (Cadent, London network);
- Tinsley Viaduct (Cadent, East of England network);
- Flow Weighted Average Calorific Value Metering Systems (Cadent, all networks);
- Full Site and System Rebuilds (SGN, all networks), including:
    - Glenmavis (SGN, Scotland network);
    - Isle of Grain (SGN, Southern network); and
    - Welling PRS (SGN, Southern network);
- South London Mains (SGN, Southern network);
- WWU.7 - HS007 (WWU);
- WWU.9 - HS009 (WWU); and
- WWU.9 - HS010 (WWU).

5.180 For Final Determinations, we have revised our Draft Determination position and technically assessed the costs for robotic intervention, electric vehicles, and GSIUR disconnections. See the 'technically assessed costs' section below for further details.

5.181 We have decided to technically assess Cadent's Flow Weighted Average Calorific Value (FWACV) Metering Systems project and fund it as a bespoke PCD. This is a change from our Draft Determination position, where we included FWACV in the regression. In addition, we have accepted Cadent's West Winch Pipeline proposal for technical assessment, which was previously disallowed following our engineering review in our Draft Determinations. Further details can be found in Chapters 2 and 5 of the Cadent Annex.

5.182 For Final Determinations, we have continued to technically assess the costs associated with 16 specified SGN projects, which together form the Full Site and System Rebuilds bespoke PCD. SGN supported this approach in its response to our Draft Determinations. In our Draft Determinations, we assessed 15 projects under this PCD and reviewed Welling PRS separately under technical assessment; Welling PRS is now included within the PCD scope. We have also decided to continue to exclude intermediate and medium-pressure services for SGN's

Southern and Scotland networks from regression in our Final Determinations. However, these services are under technical assessment rather than being treated as a bespoke output. Lastly, we have decided to technically assess SGN's South London Mains project for Final Determinations, as it is now being funded as part of an evaluative PCD. This is a change from our Draft Determination position where we included it in the regression. Further details are provided in Chapters 2 and 5 of the SGN Annex.

5.183 We have decided to exclude the costs associated with three LTS pipeline replacements for WWU, assessing these as bespoke outputs in our Final Determinations. These projects were previously included in the regression in our Draft Determinations. Further detail can be found in Chapter 2 of the WWU Company Annex.

5.184 The GDNs proposed the exclusion of a number of other cost categories at Draft Determinations, which we are proposing to reject and have continued to assess these costs within the regression. Details of these specific claims and our rationale for why we rejected these different activities are included in the sections on Technically assessed costs and Bespoke outputs below, and Chapter 5 of the Company Annexes.

Engineering and cost review adjustments

Background

5.185 We make pre-modelling adjustments to workloads to align the cost assessment process with the engineering review, which focuses on ensuring the needs case and optioneering proposals are justified.

5.186 For cost activities that are modelled through the regression, where there is a corresponding workload driver within the totex CSV (eg repex), we have made proportional pre-modelling adjustments to both the costs and cost driver. Where the cost activity is represented by a scale variable within the regression, we have made pre-modelling adjustments to the costs. For costs modelled through non-regression benchmarking, we have made relevant adjustments to the costs and workloads prior to applying any benchmarking analysis. For technically assessed activities, we have made adjustments directly to the costs as part of applying our view of efficient costs.

Final Determinations decision and rationale for adjustments to capex activities

5.187 We have applied partial reductions to Cadent's capex expenditure in the following cost categories:

- LTS pipelines, storage & entry;
- Other capex;
- Governors; and
- Reinforcement.

5.188 We have applied partial reductions to NGN's capex expenditure in the following cost categories:

- LTS pipelines, storage & entry.

5.189 We have applied partial reductions to SGN's capex expenditure in the following cost categories:

- Other capex;
- Governors; and
- Reinforcement.

5.190 We have applied partial reductions to WWU's capex expenditure for in the following cost categories:

- Governors.

5.191 See the Appendix of the relevant Company Annexes for further detail on the engineering reviews that set out the rationale for these adjustments.

Final Determinations decision and rationale for adjustments to repex activities

5.192 We have applied partial reductions to Cadent's repex expenditure for the following cost categories:

- Repex services;
- Diversions;
- Non-madatory repex (Tier 2B mains, Tier 3 mains, iron mains >30m from a building, steel mains >2" in diameter, other mains, PE mains, and associated services); and
- Risers.

5.193 We have applied partial reductions to NGN's repex expenditure for the following cost categories:

- Tier 1 mains; and
- Risers.

5.194 We have applied partial reductions to SGN's repex expenditure for the following cost categories:

- Repex services;
- Diversions;
- Risers; and
- Other Mains.

5.195 We have applied partial reduction to WWU's repex expenditure for the follow cost categories;

- Risers.

5.196 See the Appendix of the relevant Company Annexes for further detail on the engineering reviews that set out the rationale for these adjustments.

Cyber resilience technical review

5.197 To evaluate the network companies' Cyber Resilience Business Plans (CRBPs), we conducted a bottom-up assessment focusing on the merits of the needs case, deliverability, and costs of each project proposed by the companies. Due to the sensitive nature of this area, we are not providing further details regarding our assessment of individual projects. Similarly, consultation responses are also confidential.

5.198 Further details on our cyber assessment can be found in Chapter 11 of the Overview Document. A detailed breakdown of our decisions are set out in confidential annexes that have been shared directly with the network companies

IT&T technical review

Background

5.199 We engaged external advisors to undertake a technical review of the GDNs' proposed IT&T investments for RIIO-GD3. The advisors review was focused on determining whether the needs case for IT&T investments had been justified. Where the need for IT&T investment was not considered justified, we removed the associated costs for the work, prior to undertaking cost benchmarking assessment. Non-operational IT, Operational Technology and IT Business Support costs were in the scope of the assessment but not Data & Digitalisation or Cyber costs, which were assessed separately.

Final Determinations summary

Design	Final Determination	Draft Determination
Assessment framework and criteria	Expert technical review for major investments, proportional adjustments for investment not covered by detailed review	Same as FD
Approach to cost assessment	Assess proposed costs within the regression, for investments with a justified needs case	Same as FD

Final Determination rationale and Draft Determination responses

5.200 We decided to base our assessment of the needs for proposed IT&T investments on a technical review carried out by external advisors, in line with the assessment framework and criteria set out in our Draft Determinations. This approach builds on the approach taken at RIIO-GD2. The outputs of this review informed our needs case assessment for IT&T investment proposals, with costs for justified investments being benchmarked within the totex regression.

5.201 We decided to apply the average percentage of allowed expenditure for the projects reviewed for a given GDN to the remaining IT projects proposed by that GDN (as proposed in the Draft Determinations). For GDNs, the expert review covered the detailed assessment of projects representing 93.3% of requested funding (£345.2m) - corresponding to around 96.6% for Cadent (which requested funding of £128.3m), 95.9% for SGN (which requested funding of £129.6m), 77.3% for WWU (which requested funding of £54.8m), and 96.6% for NGN (which requested funding of £32.5m). We did not undertake a full technical review of all submitted projects due to the large number of low materiality projects. We consider this approach to determining reductions in projects not assessed through expert review reasonable, as it is consistent with the overall quality of the needs justification put forward by each company.

5.202 The review considered companies' IT&T strategies, BPDT supporting commentary, engineering/investment justification papers (EJPs/IJPs) and CBAs. The review also considered companies' responses to clarification questions, including those received before the publication of DDs and those received after the submission of companies' DD responses.

5.203 The technical review of each proposed investment focused on three dimensions:

- the validity of the needs case;

- the strength and robustness of the economic case,[76] broken down into 'value for money' and 'optioneering' components; and
- the appropriateness of cost levels associated with the proposed work plans, broken down into 'scope definition', 'delivery certainty' and 'cost assurity' component.

5.204 Each component of each dimension (adding up to six components in total) above was assessed against a set of criteria, which were not published but have been made available to GDNs, and scored according to these criteria using an ordinal Red-Amber-Green (RAG) rating. Projects with a Red needs case rating received no funding, regardless of economic case and cost ratings. Any project that achieved at least an Amber needs case rating received at least 25% of requested funding.

5.205 For projects with a needs case rated Amber or Green, the economic case and cost component ratings were then converted to a numeric score, where Red=1, Amber=2 and Green=3. These numeric scores were averaged to produce a composite score (CS), which was mapped onto the following percentage funding allowance thresholds:

- Projects with a CS greater than or equal to 2.5 were allowed the full funding requested;
- Projects with a CS less than 2.5 but greater than or equal to 2.0 were allowed 75% of the funding requested;
- Projects with a CS less than 2.0 but greater than or equal to 1.5 were allowed 50% of the funding requested; and
- Projects with a CS less than 1.5 were allowed 25% of the funding requested.

5.206 We note that a DNO asked for Ofgem to publish a report from the technical review. Due to sensitivity around the details of each company's proposed IT&T investments, we have not published the project-level assessments from our technical review. However, we intend to share a summary of project-level assessments directly with the licensees.

5.207 We consider that our overall approach strikes an appropriate balance between the accuracy of our assessment and the amount of time and resources required to undertake the technical review. We note that our approach also builds on the

[76] Note that this was incorrectly named the 'needs' case in the DD.

RIIO-GD2 approach but now applies a more comprehensive set of rating dimensions and updated funding thresholds.

5.208 GDNs broadly agreed with the principle of undertaking a technical review of IT&T expenditure. However, all four disagreed in part with the results of the technical review and argued for us to reconsider project ratings and funding allowances. They also highlighted concerns over process and over elements of our framework. Cadent agreed with the inclusion of IT&T costs in the totex regression model (following a technical review) and accepted our overall approach to the technical review (including assessment criteria, scores, implied weight across different scoring elements), noting that it is consistent with the approach previously taken to re-openers. SGN recognised the need for a pragmatic and consistent framework for the technical review but suggested that the description of the framework in the Draft Determinations lacked sufficient detail and transparency. WWU agreed with the need to assess projects using a consistent framework, but echoed SGN's critique of the Draft Determinations, also pointing to the lack of detailed rationale for the assessment ratings. Both SGN and WWU pointed to the lack of consultation in relation to the approach to the technical review, noting that the assessment dimensions and components, and the mapping of ratings to funding levels had not been published by us prior to Draft Determinations. WWU did, however, acknowledge the constructive bilateral engagement in its dealings with us (where we provided additional details to GDNs - see below).

5.209 One DNO disagreed with the overall framework employed in our technical review and proposed instead that we specify project-specific efficient costs based on a more detailed bottom-up cost assessment. We ruled this out on the basis of being overly resource intensive and administratively burdensome, given the time available and the relative values of the proposed investments.

5.210 We did not consider GDNs to have made strong arguments for us to change our assessment framework and we note that most accepted it in principle. We have engaged closely with GDNs after publication of Draft Determinations to provide further clarity on our approach, including providing additional detail in relation to the assessment framework and our project assessment ratings. This included bilateral meetings also attended by our external advisors and we provided companies with the opportunity to submit additional project-specific business case information, which all companies responded to. The additional information provided was reviewed by our external technical advisors, and project ratings and funding allowances were updated where appropriate.

5.211 WWU disagreed with the principle of IT&T costs being included in the top-down totex regression, although it did not provide clear evidence in support of this view. We note that Cadent agreed with the inclusion of IT&T costs in the top-down totex regression whereas the other two GDNs did not express a view. We consider that IT&T costs are an integral part of running a GDN business and that there may be opportunities for companies to substitute IT&T for other types of expenditure (for example, a company could choose to employ fewer staff but provide with more sophisticated IT&T equipment allowing them to be more productive). We therefore continue to consider that it is appropriate to included IT&T costs in the top-down totex regression model.

5.212 WWU and NGN argued that our totex regression model does not adequately capture group-level economies of scale, which they claim apply to IT&T costs. We have addressed the issue of economies of scale more generally in the MEAV section below.

5.213 NGN has also argued that IT&T costs have not been categorised consistently between BAU and capex by GDNs in their respective business plans. We have undertaken further review since Draft Determinations to ensure correct and consistent alignment between costs between different cost activities (eg between IT&T, cyber and D&D). We also note that all IT&T costs are assessed within the regression in our Final Determinations.

Data and Digitalisation technical review

5.214 In our Business Plan Guidance, we identified the criteria and process that we have used to assess the funding of proposed data and digitalisation (D&D) investments.

5.215 Within their Business Plans GDNs requested a total of £87.6m for D&D investments after miscategorised costs were accounted for and reclassified. In our Draft Determinations, we proposed to fund £73.9m after removing those investment proposals that did not provide sufficient justification or information.

5.216 Following responses to our Draft Determinations, we have decided to fund £86.4m[77] for D&D investments in RIIO-GD3. Our final decision, rationale and funding for each company is provided in the individual Company Annexes.

[77] Pre application of efficiency challenges.

Other pre-modelling cost adjustments

5.217 In its plan, Cadent proposed a £24.7m investment to support activities associated with the net zero transition. In our Draft Determinations, we proposed to reject these costs as the proposal assigns certain strategic planning accountability to the GDN instead of NESO, which contradicts RESP policy.

5.218 Following responses to our Draft Determinations, we have decided to approve £9.57m of the funding Cadent requested. Further information can be found in Chapter 2 of the Cadent company annex.

5.219 SGN made two separate DPD UIOLI funding proposals. In our Draft Determinations, we proposed to include these in baseline due to the level of cost and needs case certainty for these projects in its Business Plan. We proposed to move these requested costs of £18.5m for these projects into submitted baseline totex.

5.220 Following responses to our Draft Determinations, we have decided to award all GDNs 0.5% of efficient totex for the DPD UIOLI. Further information can be found in Chapter 3 of this document and Chapter 4 of the company annexes.

Other normalisation adjustments

5.221 We have made selected other adjustments to data submitted in the RIIO-GD3 BPDTs to ensure a reasonable comparison between GDNs in our econometric modelling. These include proposed exclusions of specified historical costs and exclusion of historical and forecast costs relating to different levels of legislative compliance between GDNs.

Adjustments to historical costs

Background

5.222 We propose to maintain adjustments for historical costs from the RIIO-GD1 and RIIO-GD2 period relating to:

- Large capex projects;
- Gasholder demolition;
- Physical security;
- Cyber resilience; and
- Loss of land development claims.

5.223 This is in line with our approach to assess the forecast costs separately in RIIO-GD3 and would ensure a consistent view of totex over the 18-year time period for our econometric modelling.

5.224 Similarly, we removed historical costs associated with non-regression cost activities. These included costs relating to repex diversions, MOBs, streetworks, smart metering, land remediation, growth governors and SIU opex.

Final Determinations summary

Design	Final Determinations	Draft Determinations
Costs adjusted	Loss of meterwork Gasholder demolition GD1 projects > £0.75m GD1 projects >£4.0m Thames Tunnel & IP	Same as FD.

Final Determinations rationale and Draft Determinations responses

5.225 For Final Determinations, we have decided to adjust the historical costs for:

- Loss of meterwork;
- Gasholder demolition;
- GD1 projects > £0.75m;
- GD1 projects >£4.0m; and
- Thames Tunnel & IP.

5.226 We have retained these historical normalisations to ensure consistency with the cost treatment in RIIO-GD2. While there are no forward-looking costs for these activities, we think maintaining the adjustment across RIIO-GD1 and RIIO-GD2 provides continuity and remains a suitable approach for RIIO-GD3.

Compliance with HSE legislation on fatigue

Background

5.227 At the beginning of RIIO-GD2, the HSE updated its directives around the maximum length of shift patterns for workers, moving from a 16-hour to 12-hour limit, and set out its expectations around compliance and enforcement. The GDNs are responsible for ensuring timely response and action on a 24/7 basis following reports of gas leaks on their networks. This means each GDN must have a certain number of first call operatives (FCOs) working at any one time, to ensure they can respond to reports of leaks across the full geographic coverage of their

network. As these FCOs are not always engaged in emergency response work during their shifts, they can also undertake non-emergency work (eg routine maintenance tasks).

5.228 The move to shorter maximum shift patterns, to comply with the HSE's legislation on fatigue, results in increased overheads and lower productivity in the delivery of nonroutine work. We have established with the GDNs, through SQs, which cost activities they expect to be impacted by complying with the HSE fatigue legislation and when they expect to be fully compliant.

5.229 In our Draft Determinations, we proposed to make adjustments to costs in RIIO-GD2 and RIIO-GD3 to account for different levels of compliance across the GDNs, to reflect the impact of relative efficiency and ensure fair treatment within the regression benchmarking. We proposed to make the adjustment to all networks, relative to the GDN with the latest date of expected compliance.

Final Determinations summary

Design	Final Determination	Draft Determination
Pre-modelling normalisation adjustment applied	Fatigue (HSE 12-hr max shift pattern compliance)	Same as FD.
Approach to adjustment	Adjustment applied annually from start of RIIO-GD2 for any years in which a GDN is non-compliant Adjustment applied relative to GDN with earliest date of compliance (WWU)	Adjustment applied annually from start of RIIO-GD2 for all GDNs until final year of compliance. Adjustment applied relative to the GDN with the latest date of compliance.

Final Determination rationale and Draft Determination responses

5.230 We have decided to apply a pre-modelling normalisation adjustment to account for the costs associated with achieving compliance with the HSE requirements on 12-hour working patterns. These costs are applied in RIIO-GD2 and RIIO-GD3 during years in which networks are non-compliant with the HSE's legislation. We expect GDNs to comply with legislative requirements and do not think non-compliant companies should be able to gain an advantage in the cost benchmarking by avoiding the costs associated with becoming compliant. Therefore, we think it is reasonable to account for these avoided costs for non-compliant companies prior to running the regression.

5.231 We have decided to apply the normalisation adjustment by adding the incremental avoided costs of compliance onto the opex allowances of non-

compliant GDNs for the years in which they are non-compliant. This is calculated by:

- Starting with total annual incremental costs of compliance for each network, as submitted by the GDNs in response to SQs
- For year prior to full compliance, calculating the difference between the costs in that year and those in the first year of full compliance for each network individually, to give the annual incremental cost variance.
- For each network, calculating the difference between its own annual incremental cost variance and that of the company with the earliest date of compliance, which is WWU, which became fully compliant in 2023/24. This gives the total value of the normalisation adjustment in each year for each network, up to the point that the network becomes fully compliant.
- The total cost is then split between different opex categories based on shares provided by in each GDN's submission, and costs are added as a positive pre-modelling adjustment (eg increasing the level of opex costs going into the regression).

5.232 We have applied normalisation adjustments for non-compliance with fatigue legislation as follows:

- Cadent - costs adjustments applied to all its networks for 2021/22-2024/25.
- NGN - costs adjustments applied for 2021/22-2026/27.
- SGN - costs adjustments applied for 2021/22-2026/27.
- WWU - no cost adjustments as it is the first network to achieve compliance, with the value of adjustments for all other networks calculated relative to WWU.

5.233 This represents an updated approach from our Draft Determinations position. WWU agreed with our proposal to apply a fatigue normalisation but suggested that the magnitude of our proposed adjustment was too small. It proposed that the adjustment should be applied as a positive cost to non-compliant GDNs, rather than a negative cost to compliant GDNs, a view supported by Cadent. Cadent set out that we had incorrectly stated its date of full compliance in our Draft Determinations, noting it should be 2025/26 (the last year of RIIO-GD2). NGN and SGN did not provide any specific comments on our proposed fatigue normalisation adjustment in their responses.

5.234 On further review, we agree with WWU and Cadent that making the adjustment on the basis of adding costs to non-compliant GDNs is a more accurate approach for applying the fatigue normalisation. We have adopted this method in our Final Determinations. We also acknowledge that we incorrectly stated Cadent's expected date of full compliance in our Draft Determinations and have corrected for this in our Final Determinations calculations.

5.235 Cadent also suggested that there is an inconsistency between the allowances being proposed for efficient fatigue compliance costs in our RIIO-GD2 re-opener consultation and those being used to calculate our fatigue normalisation adjustments. We have maintained our approach of using fatigue compliance costs as submitted by the GDNs, rather than those deemed efficient in our re-opener decision, for Final Determinations. We consider these two processes are seeking to achieve different outcomes. The objective of our normalisation adjustment is to allow for costs to be benchmarked on a comparable basis for the purpose of setting RIIO-GD3 allowances. Therefore, applying the adjustment on the basis of the costs submitted by GDNs is consistent with the basis on which the forecasts are submitted.

5.236 The purpose of the RIIO-GD2 re-opener application is to assess the efficient cost of the additional costs of fatigue compliance in RIIO-GD2, but it does not determine the value of efficient allowances in RIIO-GD3. Applying only efficient allowances, as determined through the re-opener decision, in RIIO-GD2 years would not directly impact the outturn allowances for GDNs in RIIO-GD3, and could lead to inconsistencies in the basis on which fatigue adjustments are made in RIIO-GD2 years. On this basis, we have used GDNs submissions for the incremental costs of fatigue compliance to calculate the normalisation adjustment in our Final Determinations for RIIO-GD3.

Loss of meterwork adjustment

Background

5.237 The GDNs have historically undertaken contract meterwork via competitive procurement. Following the expiration of these contracts, the costs associated with First Call Operatives (FCOs) were reallocated from metering, a non-price controlled activity, to emergency services, which are price controlled. This shift led to an increase in the costs attributed to emergency activities, and occurred at different rates for different GDNs, depending on when contracts expired. At DD we proposed to maintain these adjustments for RIIO-GD1, but not extend them to cover RIIO-GD2.

Final Determinations summary

Design	Final Determination	Draft Determination
Pre-modelling normalisation adjustment applied	Normalisation adjustment for historical costs associated with reduced productivity due to loss of meterwork.	Same as FD.
Approach to adjustment	Adjustment applied for each GDN in RIIO-GD1. Adjustment not extended to RIIO-GD2.	Same as FD.

Final Determination rationale and Draft Determination responses

5.238 We have decided to maintain these adjustments for RIIO-GD1 at FDs, but not extend to cover RIIO-GD2 historical costs. We consider that these costs have become less material in RIIO-GD2 and that GDNs have had sufficient time to efficiently reorganise their workforces to mitigate the impacts associated with undertaking reduced meterwork.

5.239 WWU disagreed with our proposal not to extend the loss of meterwork adjustment to RIIO-GD2, suggesting it created inconsistent treatment with RIIO-GD1 years. As noted above, we think this adjustment is immaterial for RIIO-GD2, and therefore have not carried it forward into RIIO-GD2.

Totex Benchmarking

Overview

5.240 Totex benchmarking is the most important tool in our cost assessment toolkit, allowing us to compare relative cost efficiency between GDNs across various activities and through time on a like for like basis. In paragraphs 5.40-5.49 above, we set out our rationale for deciding to use a single regression model to determine efficient totex in RIIO-GD3. In this section we set out the specification of our model, and the modelling performance outputs and results.

Totex regression model specification

Final Determinations summary

Design	Final Determination	Draft Determination
Number of models	Single totex model	Same as FD.
Level of aggregation	Top-down	Same as FD.
Estimation technique	Ordinary Least Squares (OLS) estimator with clustered robust standard errors	Same as FD.

Design	Final Determination	Draft Determination
Model specification	Cobb-Douglas function with a composite scale variable (CSV) as the main driver	Same as FD.
CSV cost driver components	MEAV; Maintenance MEAV; Total External Condition Reports; Emergency CSV; Repex synthetic cost driver; Capex synthetic cost driver (mains reinforcement and connections)	Same as FD.
Time trend	t1 (2013-14 to 2030-31) and t2 (forecast period 2024-25 to 2030-31) time trends to account for unobserved time effects	Same as FD.
Time period of data used	RIIO-GD1, RIIO-GD2 and RIIO-GD3 (2013-14 to 2030-31)	Same as FD.

Level of aggregation

Background

5.241 At our Draft Determinations we proposed to continue using a single top-down totex model in RIIO-GD3, this model performed strongly and was robust when using the RIIO-GD3 BPDT data. This is the same model approach we used in RIIO-GD2,

Final Determinations decision and rationale

5.242 We have decided to continue using a single top-down totex model in RIIO-GD3. It reflects a consistent approach across GD price controls and aligns with our view that RIIO-GD3 looks broadly similar to RIIO-GD2 in the context of GDN workloads, activities and responsibilities. Moving away from this approach would mean compromising on regulatory consistency, which is important for capital intensive regulated sectors, such as GD, where investors typically make longer term investment decisions. Having a stable regulatory approach to determining the core funding for GDNs is also important in the context of the broader uncertainties that face the sector over the medium to long term.

5.243 We received responses from each of the four GDNs and two DNOs on the proposed level of aggregation in our totex modelling. Cadent, NGN and WWU agreed with our proposal to continue using a single top-down totex model in RIIO-GD3. SGN called for a wider approach to model aggregation, including mid-models, disaggregation, and triangulation, to ensure no single econometric view dominates the setting of totex allowances. One DNO supported the use of totex level econometric modelling stating that it captures all cost trade-offs, and that it

incentivises companies to submit plans at the lowest cost while finding synergies in future price controls. Another DNO accepted a top-down level of aggregation as a benchmark because it captures interactions across cost categories. However, it disagreed with it being the only model in the absence of more granular checks (ie from complementary middle-up or bottom-up models), without which category specific inefficiencies may go unnoticed, leading to allowance errors.

5.244 The responses we received were mostly in favour of our Draft Determinations proposal. We considered the proposal by SGN and one DNO to complement the single top-down model with other approaches. For our decision and rationale on alternative model specifications please refer to paragraphs 5.45-5.49.

Estimation technique

Background

5.245 At our Draft Determinations we proposed to continue using Ordinary Least Squares (OLS) with robust standard clustered errors as the estimation technique for our model in RIIO-GD3, as per RIIO-GD2.

Final Determinations decision and rationale

5.246 We have decided to continue using Ordinary Least Squares (OLS) with robust standard clustered errors as the estimation technique for our model in RIIO-GD3. We agree that the simplicity, transparency and the value of consistency between regulatory periods are important. Furthermore, using OLS with clustered robust standard errors accounts for the fact that the observations in the sample are not fully independent but clustered by GDN.

5.247 We received responses from each of the four GDNs and two DNOs on the proposed estimation technique. All of the four GDNs and one DNO broadly agreed with our proposal to continue using OLS with robust standard clustered errors in RIIO-GD3.

5.248 Cadent noted that it is less demanding in terms of sample size compared to alternatives such as Random Effects (RE) models and that OLS is seen as the simplest and most interpretable method for this context. NGN stated that retaining the same technique between RIIO-GD2 and RIIO-GD3 supports methodological consistency. WWU agreed that pooled OLS remains an appropriate baseline technique, however requested Ofgem to test robustness using RE and Stochastic Frontier Analysis (SFA), as panel methods may better capture within company dynamics. SGN suggested that alternative techniques (eg non-linear least squares) may be appropriate for certain drivers or at more

granular levels. Another DNO proposed replacing pooled OLS with panel appropriate estimators, specifically RE with cluster robust standard errors, or panel GLS (xtgls) to model intra panel correlation and potential autocorrelation given panel structure and diagnostics.

5.249 In relation to RE and SFA approaches, given our data limitations, we prefer not to rely on models that are more data intensive and are based on discretionary distributional assumptions for the error term. Such an approach could be at the expense of the simplicity, transparency and robustness of the model. For further details on our arguments on using OLS with robust standard clustered errors please refer to our RIIO-2 Step-by-Step Guide to Cost Assessment annex[78] which we believe are still applicable.

Model specification

Background

5.250 In our Draft Determinations we proposed to continue using the Cobb-Douglas function, consistent with our approach in RIIO-GD1 and RIIO-GD2. We also proposed to maintain our RIIO-GD2 approach of using a CSV as the main driver in the model specification.

Final Determinations decision and rationale

5.251 We have decided to continue using the Cobb-Douglas function and a CSV as the main driver in the model specification. The Cobb-Douglas function is consistent with our approach between regulatory periods and is widely employed in cost assessment literature and practice. It allows for economies of scale to be captured, and the estimated coefficient can be interpreted as a cost elasticity.[79]

5.252 Cadent agreed with the use of a CSV as the main cost driver but proposed the inclusion of population density as an additional explanatory variable. We have decided not to include density as a cost driver and explain our rationale in the density sub-section below.

5.253 SGN agreed with the use of the Cobb-Douglas function as the functional form for regression analysis and supports the use of CSV as the main driver in the model specification. No further specific responses were received in relation to model

[78] See 'Final Determinations: Technical Annex part one' at: RIIO-2 Final Determinations for Transmission and Gas Distribution network companies and the Electricity System Operator | Ofgem

[79] We recognise that due to the inclusion of a number of cost driver's within the CSV, the exact interpretation of the CSV is slightly more nuanced.

specification. Please refer to the subsequent Cost drivers section in this chapter for further details on related consultation responses.

Time trends

Background

5.254 The regression model can be specified with time trend variables which allows the model to capture changes in real expenditure through time, due to increasing efficiency or other exogenous factors not captured by other terms in the model.

Final Determinations decision and rationale

5.255 We have decided to specify the regression model with both the t1 and t2 time trend variables. t1 covers historic and forecast data, and t2 covers only forecast data. This is consistent with the approach in RIIO-GD2, and the model proposed in our Draft Determinations.

5.256 We believe there is a rationale for having the t1 time trend variable based upon historic and forecast data, which can reflect efficiency and exogenous changes over the whole time period used. At DDs we highlighted that we wanted to work with the companies to better explain the increases in costs across the forecast period and would then consider whether to maintain the t2 time variable. Whilst we did not ask a specific consultation question on time variables, Cadent and WWU specifically highlighted that the t2 variable should remain in the model.

5.257 We have continued to work with companies to improve aspects of the regression modelling, to better explain the increase in costs across RIIO-GD3. As a result of the various changes that we have made to our modelling, the statistical significance of the t2 coefficient has reduced since Draft Determinations, with the value of the coefficient remaining constant. The reduction in statistical significance suggests our Final Determinations model better explains the underlying drivers of costs in RIIO-GD3.

5.258 However, the t2 variable remains a key variable in the model. It is statistically significant and improves the statistical performance of the regression model. We also think that it helps to account for areas where costs are forecast to increase, but where there is a lack of complete and robust supporting data to allow a more detailed specification within the cost driver. For example, as we set out in the repex synthetic cost driver section, there is insufficiently detailed and consistent data regarding repex complexity to incorporate this into the repex synthetic cost driver directly. We therefore believe it is appropriate to maintain the t2 variable

within the RIIO-GD3 model to adequately explain forecast cost increases across all companies.

5.259 We continue to believe that wherever possible cost increases should be explained by cost and workload drivers. However, the use of time variables remains a tool within econometric modelling that can be used where this information is unavailable. We will consider the use of time variables in future price controls based upon the evidence available at that time.

Time periods

Background

5.260 In our Draft Determinations we used data covering RIIO-GD1, RIIO-GD2 and RIIO-GD3 in our proposed econometric totex model. Specifically:

- RIIO-GD1 historical data for 2013/14-2020/21;
- RIIO-GD2 historical data for 2021/22-2023/24;
- RIIO-GD2 forecast data for 2024/25-2025/26; and
- RIIO-GD3 forecast data for 2026/27-2030/31.

Final Determinations decision and rationale

5.261 We have decided to retain the full time period covering RIIO-GD1, RIIO-GD2 and RIIO-GD3 in our econometric totex model as it covers all comparable data, and strikes a good balance between actual observed data and uncertain forecasts.

5.262 In general, benchmark models are considered more statistically robust the greater the number of observations included within the model. Additionally, for models to be reliable explainers of the real-world relationship between costs and drivers, they should be firmly grounded in actual observed data, noting the inherent uncertainty contained in forecasts.

5.263 For these reasons, we think using the full RIIO-GD1 to RIIO-GD3 dataset is appropriate for our modelling in RIIO-GD3, and results in a model that is weighted 61% towards reported historical data, 39% towards forecast. In our view, this strikes a reasonable balance between explaining observed relationships, while allowing for some influence of forecast data, in terms of incorporating it into the estimation of the relationship between the cost and cost driver.

5.264 The model incorporates 11 years of historical 'actual' data, as reported by the GDNs in their annual regulatory reporting pack (RRPs), and seven years of forecast data across the final years of RIIO-GD2 and all of RIIO-GD3.

5.265 We received responses from each of the four GDNs and two DNOs on the proposed time periods in our totex model. All of the four GDNs and one DNO broadly agreed with our proposal of using the data covering the time period RIIO-GD1, RIIO-GD2 and RIIO-GD3. Specifically, Cadent supported this as it increases the number of observations and improves the reliability of the model estimates, additionally noting that benchmark models are more statistically robust when more data points are included, and that using data from multiple price control periods helps to smooth out anomalies and provide a more accurate picture of underlying cost relationships. NGN urged Ofgem to carefully balance the trade-offs between historical and forecast data when considering changes to the time period. SGN supported using the full dataset to improve model robustness, with appropriate controls for structural breaks and regional changes. Another DNO raised concerns about time period choices where historical periods may not reflect forward looking step changes.

Cost drivers

CSV overview

Background

5.266 At our Draft Determinations we proposed using the following individual components to construct the totex CSV:

- Modern Equivalent Asset Value (MEAV, a proxy for network scale);
- maintenance MEAV;
- total external condition reports;
- emergency CSV;
- synthetic cost driver for repex; and
- synthetic cost driver for capex - combining mains reinforcement and connections.

5.267 We also proposed to weight the components of the CSV based on the relative proportions of average industry submitted costs for each cost category associated with each of the cost drivers.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost driver design	Totex CSV.	Same as FD.
Cost driver methodology	Single composite driver constructed of: MEAV, Maintenance MEAV, total external condition reports, emergency CSV, repex synthetic cost driver, capex synthetic cost driver.	Same as FD.
Adjustments to cost driver inputs	Set out in individual component summaries below.	Set out in individual component summaries below.

Final Determination rationale and Draft Determination responses

5.268 We have decided to retain our Draft Determinations position on both the individual components used to construct the totex CSV, and the approach used to weight the components of the CSV. See the CSV weighting section below for further discussion on our approach and rationale to determining CSV weights.

5.269 We think that using a CSV has a number of advantages compared to the using separate cost drivers within the model. CSVs help to address issues of multi-collinearity within the underlying data and ensures that the model has more degrees of freedom compared to specifying cost drivers separately. Economic and engineering logic underpin the choice of individual components that combine to make the totex CSV. The following sections cover our decision and rationale regarding cost drivers in more detail including the overarching concerns and suggestions from the companies.

5.270 We received responses from each of the four GDNs and two DNOs on our proposed cost drivers. Cadent, WWU and one DNO broadly agreed with our proposed cost drivers and weighting approach. NGN and SGN and one DNO did not agree with our proposed cost drivers and weighting approach. Specifically, Cadent stated that the proposed approach is consistent with previous price controls and is seen as robust for benchmarking purposes. Cadent also agreed with our rejection of proposals from other GDNs to use alternative cost drivers as these could introduce perverse incentives.

5.271 NGN argued that the current framework fails to incorporate group-level scale effects and lacks sufficient scrutiny of forecasted cost driver inputs. We discuss group-level scale effects in the MEAV section and include discussions on our assessment and adjustments to repex and connections drivers in the relevant sections below. SGN argued that the current drivers and weighting methods do not reflect the latest data, regional complexity, or the realities of network

operations, and that alternative approaches are needed to ensure fair and accurate benchmarking. Our approach to weighting the drivers is covered in the CSV weighting section below. One DNO argued that the current approach over-relies on endogenous drivers and lacks sufficient exogenous cost drivers, which risks distorting incentives and undermining cost efficiency. We consider that it is important to use cost drivers that are, as far as possible, outside of management control (ie exogenous), to ensure consistency of benchmarking between networks.

5.272 We have decided that using a totex CSV remains appropriate in the context of modelling the drivers of totex within the GD sector for RIIO-GD3. On balance, we consider that using a CSV is sensible, given the number of comparators for the sector, with most of the companies supporting its continued use for RIIO-GD3. We have not seen sufficient evidence in response to Draft Determinations to support a change of approach in our Final Determinations, and therefore we have continued to use a totex CSV within our RIIO-GD3 modelling.

MEAV and Maintenance MEAV

Background

5.273 Within the totex model, MEAV is used as a scale variable, reflecting the relative size and complexity of each network. MEAV is defined as the current replacement value of an individual asset. It is calculated by summing the replacement values of assets to give a single MEAV value for each network, which acts as a proxy for scale of operation. Maintenance MEAV is a subset of MEAV, comprising only those assets which are maintained under our definition of 'Maintenance' opex costs within the BPDTs. Within the totex model, MEAV is used as a scale variable, reflecting the relative size and complexity of each network.

5.274 MEAV remains the primary cost driver for the following cost activities for RIIO-GD3: Work management, Other direct activities, Business support, Training and apprentices, LTS, Storage and entry, Governors, Transport and plant and Other capex. For Maintenance cost activities, Maintenance MEAV continues to be the cost driver.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost driver design	Scale driver	Same as FD

Design	Final Determination	Draft Determination
Cost driver methodology	Modern Equivalent Asset Value summation for whole network (MEAV), maintenance subset of asset (Maintenance MEAV) [80] Standard MEAV values for each asset type, multiplied by reported number of assets	Same as FD
Adjustments to cost driver inputs	MEAV value scaled to 2023/24 prices	MEAV values in 2018/19 prices

Final Determinations rationale and Draft Determinations responses

5.275 We think network scale and complexity have a strong relationship with the majority of the GDNs' underlying cost base, not otherwise explained by workload or other scale drivers. We continue to think MEAV is the best way to reflect the complexity within each network and performs better than other scale drivers (e.g. network length or customers numbers).

5.276 In response to our Draft Determinations, there was general agreement among GDNs that MEAV effectively captures the impact of network scale on operational costs. Respondents also did not consider any of the potential alternative scale variables to be an improvement on MEAV. SGN agreed that the chosen scale driver appropriately reflects the networks they operate. However, they noted that while the number of assets remains broadly stable over time, the complexity of activities undertaken can vary. As such, it was recommended that we update the relative weights between assets (specifically the Mains, Governors and Riser unit rates) and their unit rates with the latest available data.

5.277 We have reviewed SGN's proposal, however, we identified a key concern with its approach to revise only a subset of asset unit rates (e.g. mains, governors and risers). Partial updates risk creating inconsistencies within the MEAV framework and undermining comparability across networks. To ensure consistency within our cost assessment approach, we have decided to retain the base MEAV unit costs used in RIIO-GD2, uprated to 2023/24 prices, without making any partial updates to the asset cost base. We think an exercise to comprehensively and consistently update MEAV assumptions should be picked up through the RIIO-GD3 annual reporting process.

[80] Details of the assets included in MEAV are in p103 and p114 of RIIO-2 Final Determinations - GD Sector Annex (REVISED)

Group-level scale effects

5.278 NGN set out in its response to our Draft Determinations that it considered there to be robust evidence for group scale effects, and that these should be incorporated into the modelling approach for Final Determinations. It argued that group-level economies of scale exist for companies that operate multiple networks, which apply to both direct and indirect costs. They suggested that group scale effects could be captured either by modelling at the group level, or adding an additional driver or variable. Alternatively, introducing a pre- or post-modelling adjustment at the totex or disaggregated model level.

5.279 NGN proposed an approach based on including an additional group level MEAV term within the model specification, suggesting the coefficients of its own modelling appeared consistent with an economy of scale effect.[81] NGN's initial modelling of a group-level variable excluded NGN itself, focusing on the remaining companies. We consider the small sample size to be a major limitation of NGN's analysis and the assessment of group-level scale effects in general. Additionally, the GD sector comprises only two multi-network companies (Cadent and SGN), and two individual companies (NGN and WWU) who share the same majority shareholder. This makes it difficult to robustly identify group-level effects on costs, further challenged by the removal of NGN itself from the analysis. NGN's analysis relies solely on RIIO-GD3 data, highlighting a cost increase in that period, but does not justify why group-level effects would differ across RIIO-GD1, RIIO-GD2, and RIIO-GD3. This is inconsistent with our general approach to totex modelling, which uses the full RIIO-GD1 - RIIO-GD3 dataset.

5.280 For our Final Determinations, we have decided not to adjust MEAV or introduce changes to account for group-level modelling for scale effects. We think there is insufficient evidence to show that including a group-level CSV would have significant impact on costs and therefore support a change in approach for Final Determinations. Our current approach is consistent with RIIO-GD2 and our Draft Determinations.

[81] NGN proposed two approaches for modelling group-level scale effects: 1) estimating Ofgem's Totex model at the group level, and 2) incorporating variables that capture group-level characteristics.

Total External Condition Reports

Background

5.281 Emergency and Repairs are the costs of responding to and repairing gas leaks and fixing any damaged or deteriorated assets. The requirement to undertake this work is driven by GDNs responding to callouts, based on reports of potential gas leaks provided by members of the public. These are known as external condition reports. At Draft Determinations, we proposed to use forecasts of total external condition reports as the driver of cost for repairs and as a partial driver for emergency costs within the totex CSV.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost driver design	Workload driver	Same as FD
Cost driver methodology	Total External Condition Reports	Same as FD
Adjustments to cost driver inputs	None	Same as FD

Final Determinations rationale and Draft Determinations responses

5.282 We have decided to use total external condition reports as the cost driver for repairs workloads in the totex model. We have also decided to use total external condition reports with a 20% weighting as part of the cost driver for emergency costs, within the emergency CSV (see Emergency CSV below for further details). We consider that external condition reports represent an exogenous driver that is largely outside the control of companies. Using external condition reports as the cost driver is consistent with the approach used in RIIO-GD2 and the model presented in our Draft Determinations.

5.283 Repair and emergency work is predominantly instigated by an external condition report made when a member of the public notifies the central reporting line of a suspected gas escape. Using external condition reports as the cost driver is consistent with the approach used in RIIO-GD2 and the model presented in our Draft Determinations.

5.284 SGN, NGN and WWU highlighted variation in the work done in response to condition reports. SGN and WWU raised concerns about the use of external condition reports as the cost driver, suggesting using alternative drivers based on the volume of repairs or the metallic length of repair work. We recognise that the volume of work can vary significantly between repair jobs, that the cost driver doesn't differentiate between the cost of repairs on different size of mains, and

that the volume of repair work on larger mains may proportionally be increasing as repairs on smaller mains reduce with the ongoing delivery of the repex program. However, we consider that repair volume is not an entirely exogenous driver and risks creating incentives for GDNs not to minimise the scope and efficiency of repair work. We also consider that while the scope of individual repair jobs can vary significantly, on average the scope of repair work is similar across GDNs, and upward pressures on costs due to increases in diameter size should also be broadly consistent across GDNs.

5.285 We investigated using metallic length and the number of repairs, in place of external condition reports, as the explanatory driver for repairs. The use of both metallic length and separately the number of repairs had little impact on the CSV coefficients and efficiency scores, which remained broadly unchanged. In terms of model fit and specification, we found that using metallic length resulted in a worse overall model fit, with a notably lower adjusted R squared. For number of repairs the model fit remains in line with the benchmark model when uses number of reports as the driver.

5.286 We consider total external condition reports to be the best available cost driver for explaining repair costs. This because it is largely exogenous to the GDNs, and alternative drivers do not present a clearly better alternative.

Emergency CSV

Background

5.287 Emergency costs are the direct costs of providing an emergency service to respond to all reported gas escapes and make any escapes safe. The emergency cost driver is a combination of customer numbers (80%) and the number of external condition report (20%), discussed above. The customer numbers element reflects the fixed cost component of GDNs costs, as customer numbers tend to be relatively stable over time. External condition reports account for the variable component of costs relating to operating the GDN's emergency service functions.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost driver design	CSV	Same as FD
Cost driver methodology	Weighted average of customer numbers (80%) and external condition reports (20%)	Same as FD

Design	Final Determination	Draft Determination
Adjustments to cost driver inputs	None	Same as FD

Final Determinations rationale and Draft Determinations responses

5.288 We have decided to maintain our existing approach to calculating the emergency CSV in RIIO-GD3. This is in line with our proposed position in our Draft Determinations. We believe that the combination of these drivers continues to provide a strong explanation of GDN's emergency costs.

5.289 Within their consultation response, SGN agree with the emergency CSV definition. They remark that there remain issues with the exogenous nature of reports, which they have also discussed within the context of the repair cost driver. However, they note that the Emergency CSV is made up of 80% customer numbers which they remark is a truly exogenous driver, and 20% the non-exogenous condition reports. SGN proposed that the emergency CSV continue to be used in its current form, though they have suggested that consideration of the endogenous nature of the 20% element of 'external condition reports' should be had for setting an appropriate efficiency challenge.

Repex synthetic cost driver

Background

5.290 Replacement expenditure (repex) refers to costs associated with the asset replacement programme for mains and services.[82] Repex costs relate to the ongoing programme of replacing old metallic mains and services with new PE ones. The repex synthetic cost driver is the largest component of the CSV and is therefore weighted the highest within the CSV calculation. It contains the Iron Mains Risk Reduction Programme (IMRRP), due to finish in 2032, which mandates the replacement of at-risk mains by HSE.

5.291 The repex synthetic cost driver comprises two key components: (i) the calculation of synthetic unit costs for each mains and service workload category, and (ii) workload volumes for by category for each GDN for each year. The total synthetic repex cost is derived by summing the product of each unit cost and its associated workload.

[82] Repex also includes costs associated with replacing, refurbishing and decommissioning risers and services on multiple occupancy buildings, but we propose to assess these costs outside of the regression in RIIO-GD3.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost driver design	Synthetic workload driver	Same as FD
Cost driver methodology	Sum of products of synthetic unit costs multiplied by workloads for each diameter band or service activity within each repex asset type Repex synthetic unit costs calculated as industry average unit costs using historical and forecast data with outlier removed	Same as FD
Adjustments to cost driver inputs	Normalised mains lay (commissioned) diameter band mix for Tier 1 mains applied to all GDNs Normalised lay-to-abandon ratio (of 1:1) for Tier 1 mains applied to all GDNs No adjustments made for repex complexity	Lay (commissioned) diameter band mix as per GDN submitted data Lay-to-abandon ratio as per GDN submitted data No adjustments made for repex complexity (same as FD)

Final Determination rationale and Draft Determination responses

5.292 We have decided to use a synthetic cost driver for repex in our Final Determinations, in line with the position in our Draft Determinations and RIIO-GD2, as we think a workload driver best explains changes in repex costs. The synthetic cost driver is a workload driver based on the sum of products of the synthetic unit cost and volume associated with each category of disaggregated activity. We have included the same activities within the synthetic cost driver as proposed in our Draft Determinations and used in RIIO-GD2.[83] The synthetic unit cost is calculated as the industry average for each category of RIIO-GD1, RIIO-GD2 and the forecast for RIIO-GD3. In line with RIIO-GD2, we have implemented a rules-based approach to calculating the synthetic costs which controls for outliers and ensures a minimum number of observations to produce a synthetic cost.

5.293 We have incorporated workload adjustments, consistent with the recommendations from our engineering review, when calculating the repex synthetic cost driver for each GDN. Further details on the workload adjustments

[83] Tier 1 iron mains, Tier 2 iron mains, Tier 2B iron mains, Tier 3 iron mains, steel mains <=2", steel mains >2", iron mains > 30m from a building, other policy and condition mains, services associated with all of the aforementioned mains replacement activities, services not associated with mains replacement.

resulting from the engineering review are provided in paragraphs 5.187-5.196 and the Appendix of the relevant company annexes.

5.294 We have decided to retain the number of synthetic unit costs categories and the methodology for calculating the repex synthetic unit costs. We received responses from companies proposing changes to our approach to calculating the repex synthetic cost driver in Draft Determinations responses.

5.295 SGN raised concerns with the repex synthetic cost driver, arguing that the current methodology does not effectively measure repex activity. It expressed concern regarding the rules-based method used to calculate the synthetic unit costs, arguing that it omits relevant data points and does not adequately capture cost increases associated with factors such as rising repex complexity. SGN proposed an alternative regression-based approach to generate industry average unit costs.

5.296 After reviewing SGN's proposal, we have decided to retain the existing methodology for calculating the synthetic unit cost. We think our preferred approach is consistent with modelling a notionally efficient company, and using both historical and forecast data to inform the cost driver. We have concerns that there is limited sample size for some diameter bands, which would make the consistent application of a regression-based challenging to implement.

5.297 Cadent suggested that we should include the volumes and unit costs associated with Robotic Intervention repex workload in the calculation of the repex synthetic cost driver. We have rejected this proposal, instead opting to technically assess robotic intervention. See the Robotic Intervention section in this chapter for further details.

5.298 We think maintaining our current methodology represents the most robust approach, given the potential limitations with alternatives. It ensures that the synthetic cost driver is based on an established methodology, consistent with regulatory precedent.

Increased complexity of the repex workload

5.299 All GDNs highlighted the increasing complexity of the repex workload in RIIO-GD3 relative to RIIO-GD1 and RIIO-GD2, which they linked to increasing repex cost forecasts. They suggested that previous guidance around how mandatory repex programmes were designed and which mains were prioritised has resulted in a greater number of complex projects being left to the end of the programme. Each GDN set out various examples of complexity factors which they suggest lead to longer job times, reducing productivity, and increasing costs. SGN and WWU both

proposed that the repex synthetic cost approach should be updated to consider complexity factors.

5.300 In our Draft Determinations, we did not account for complexity within the repex cost driver, due to the difficulty in measuring and incorporating the wide variety of complexity factors reported across the networks within their Business Plans.[84] We did, however, remain open to reviewing proposed approaches to include complexity factors, providing that the following criteria were met:

5.301 Well evidenced information regarding the scale of proposed increased costs associated with the complexity, estimated on a consistent basis across GDNs.

5.302 Well evidenced information on volume of complex workloads, on a comparable basis across GDNs; Evidence that there is an increase in the volume of complex work compared to the forecast repex programmes. The GDNs need to be able to show that the volumes of complex work implicity included within the costs included within the existing repex synthetic cost driver are insufficient to cover the volumes and costs of the forecast program. In addition, repex is a programme of work that spans multiple price controls, so GDNs also need to evidence that the forecast volumes of complex work have not already been funded under previous price control settlements.

5.303 Evidence that the total costs of each area of complexity is material enough to justify an adjustment to our proposed methodology for RIIO-GD3.

5.304 Proposals from GDNs for robust methodologies for incorporating repex complexity within our proposed modelling methodology for RIIO-GD3. Proposed approaches should consider whether issues are common across GDNs and therefore should be captured within the regression model through the repex synthetic cost driver and applied fairly across all GDNs, or whether issues are unique to specific network(s), demonstrating how a proposed adjustment meets the relevant criteria for a company specific adjustment.

5.305 WWU submitted a report, alongside its consultation response, produced by external consultants (Oxera) which identified and evidenced two complexity factors – the share of replacement undertaken using open-cut techniques, and

[84] Reported complexity factors include: Larger diameter band increase; pressure; depth of excavation; network complexity; single or two-way network feed; increased open-cut share; fragmented works (stranded mains); long-sided services; increased ductile iron share; service density; cross road services; crossing (canals, railways, roads), proximity to special buildings; MOBs with close proximity; mains in private land / limited access, road junctions; narrow / limited access; terraced properties arterial routes / carriageway working; geographical location; traffic management; local authority requirements; increased market competition for labour; increased concrete and tarmac prices, and; reduced productivity.

ductile-iron pipe material – as important drivers of repex costs in GD3. They proposed to calculate a complexity index to account for the relative impact of these factors on each network, suggesting it could be used either to adjust the synthetic cost driver or make pre-modelling adjustments to account for complexity, similar to our approach to regional factors. WWU argued that this approach meets the criteria we set out in our Draft Determinations, given that all GDNs already submit data on both open-cut and ductile-iron within the BPDTs.

5.306 Following careful consideration, we have decided not to separate ductile iron and open cut within the repex synthetic cost driver. These factors are not consistently prevalent across networks, and focusing solely on them would risk disadvantaging networks that face cost pressures from other drivers not captured due to insufficient data granularity. Our testing suggested applying WWU's proposed approaches resulted in notably different outcomes for individual companies, with WWU seeing an increase in its allowance, while other networks saw a significant decrease. We are concerned that applying an approach that only considers one source of complexity may lead to unbalanced outcomes within the benchmarking, and therefore we have not decided to adopt WWU's proposal in our Final Determinations. We note that the data on open cut is only reported at the tier level (eg Tier 1) within the BPDTs, resulting in an inconsistency with the granularity of the repex synthetic cost driver calculations, which are determined at the more granular diameter band level. We also think the decision to open cut is not fully outside of management control, with GDNs having some scope to choose the technique they use to deliver repex projects. Combined with the concerns we have over the robustness and comparability of some of the Tier 1 mains forecasts (which we explain in more detail below), we do not consider that open cut meets all the criteria for a good driver within the benchmark model.

5.307 We tested incorporating ductile iron into the repex synthetic cost driver separately, as it is reported at the same level of granularity as used in the existing repex synthetic driver. However, we note that historical data on DI is incomplete for some networks, which are unable to split out workloads by material for the RIIO-GD1 period. We found that adding ductile iron to the cost driver generally resulted in immaterial changes to allowances, including for WWU. Given the incomplete dataset, low materiality on totex allowances and potential inconsistency associated with accounting for one complexity factor but not others, we have decided not to account for ductile iron in the repex synthetic cost driver in our Final Determinations.

5.308 SGN disagreed with the approach to the repex cost driver in our Draft Determinations and proposed an adjustment to the model to account for complexity factors. It argued that there is a regional aspect to repex complexity factors which it sought to demonstrate by comparing productivity between their Scotland and Southern networks. SGN noted its Southern network experienced a greater level of service density, long services and road crossing complexity factors. It proposed the use of a proxy for complexity, in the form of a density factor, to overcome what it acknowledged are significant data barriers to determining an industry-wide definition of complexity.

5.309 We have decided not to include the density variable proposed by SGN in the top-down totex regression model. We have increased the overall scale of our pre-modelling adjustments for urbanity and sparsity, with both applying to repex costs. We consider that our pre-modelling adjustments already account for elements of density-related repex costs and therefore applying an additional density factor as a proxy for complexity risks double counting these cost impacts. We also consider that density is likely to be only one potential element of complexity, and therefore including a density factor would result in the omission of other complexity factors, potentially favouring some networks over others.

5.310 Cadent agreed with our Draft Determinations proposals not to account for complexity directly in the modelling. While it agreed repex work is becoming more complex across the sector, is noted a lack of comparable data on which to base any complexity-related adjustments. It argued that the sector wide increase in complexity will be implicitly captured and funded through the model, given the use of forecast data, both in the calculation of synthetic unit costs within the repex synthetic cost driver, and in the dataset that informs the regression.

5.311 After extensive review of the evidence and representations provided by networks, we have concluded in our Final Determinations that we will not separate out the areas of complexity identified. There is broad recognition that defining complexity consistently across the industry is challenging. We therefore consider that making selective adjustments that do not reflect the full range of factors would risk introducing inequity and lead to modelling outcomes perceived as unfair by some networks.

5.312 Nevertheless, we recognise that the complexity factors reported by networks are placing upward pressure on costs. Our Final Determinations model addresses these pressures through two mechanisms: first, rising unit costs within the repex synthetic cost driver, and second, the inclusion of the t2 time trend variable within the totex regression to capture any residual impact. Together, these

elements ensure that the increase in costs associated with greater repex complexity in RIIO-GD3 is appropriately reflected. The repex model derives synthetic unit costs using a combination of historical and forecast data to establish an efficient level of cost for each category, which captures part of the reported increase. In addition, the t2 variable accounts for exogenous cost trends over the forecast period. Given that all GDNs have reported increasing complexity as a driver of higher costs, we consider this to be an exogenous factor which is therefore appropriately accounted for within the model.

5.313 It is important to note that we expect increasing repex complexity may also be an important factor in the final years of the IMRRP immediately after RIIO-GD3. We plan to work with the GDNs to improve the understanding, definition and reporting of repex complexity factors throughout RIIO-GD3 to deliver an improved dataset with which to inform future repex funding decisions.

Tier 1 Mains Forecasts

5.314 The Tier 1 mains repex programme includes the replacement of high-risk iron mains[85] which GDNs are mandated to replace by HSE under the Iron Mains Risk Reduction Programme (IMRRP) which is due to be completed in 2032.

5.315 GDNs submit workload and cost data for both the old iron mains that will be decommissioned and the new PE pipes that are commissioned to replace these mains. This data is disaggregated into diameter bands which increase in size and unit-cost from Diameter Band A through to Diameter Band G. The commissioned diameter band mix feeds directly into the calculation of the repex synthetic cost driver.[86]

5.316 In our Draft Determinations, we observed that for Cadent and NGN there appeared to be a marked shift from smaller to larger diameter bands between historical years (actuals) and forecast years (RIIO-GD2 Y4 and Y5, plus RIIO-GD3), with no clear rationale provided in their Business Plans. Notably, there did not appear to be a corresponding shift in the forecast diameter band mix for mains decommissioned. A diameter band mix featuring a higher share of larger diameter mains would, all else being equal, result in a higher repex synthetic cost driver value. Concerns over the consistency of Tier 1 mains commissioned forecasts were highlighted by both WWU and SGN in their consultation responses.

[85] Iron mains which are 8" or less in diameter and located within 30m of a building
[86] GDNs also provide aggregate forecast data on the technique used to complete the replacement work, this is an aggregate proportion of the total work that is either open cut, dead-insertion or live-insertion.

5.317 Since Draft Determinations, we have gathered further evidence on each GDNs' Tier 1 mains forecasts through SQs, data requests, the CAWG and bilateral discussions. Our discussions with the companies made apparent that each takes a different approach to forecasting Tier 1 mains forecasts for RIIO-GD3, resulting in varying degrees of uncertainty within the submitted data. Some networks rely significantly more on bottom-up approaches, while others utilise a combination of bottom-up and more holistic top-down approaches.

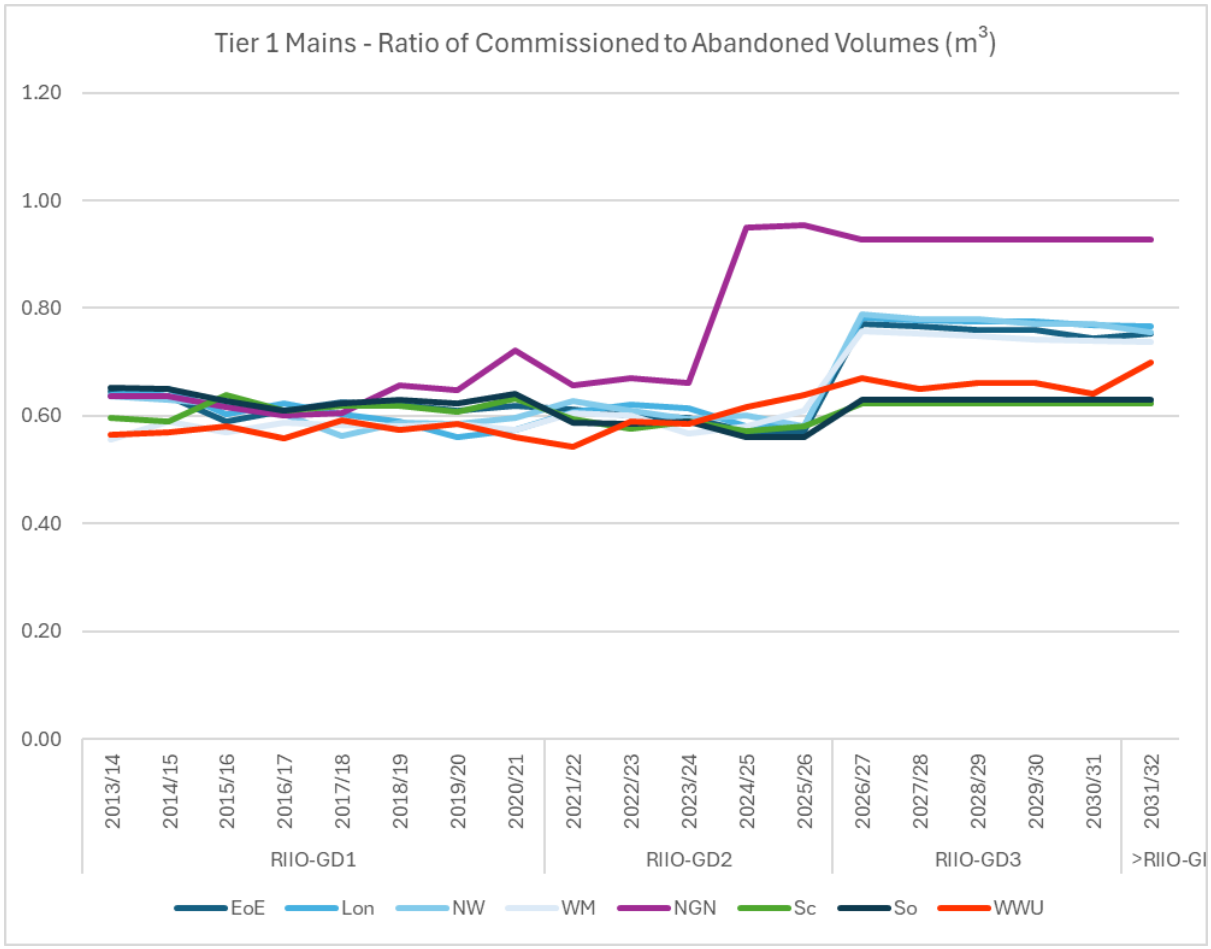
5.318 We have analysed the relationship between the capacity of commissioned pipes laid in the network, and the corresponding capacity of pipes decommissioned, by estimating the total physical volume[87] of each set of mains.[88] This is designed to check whether the forecast data in company plans is consistent with observed historical relationships across the industry. In principle, we would expect these relationships to be broadly stable over time. A significant increase or decrease in the ratio between these capacities implies a relative growth or decline in overall network capacity.

5.319 Historic data shows a stable relationship between the capacity of mains commissioned, and the capacity of mains decommissioned. The ratio of volume commissioned to volume decommissioned has been close to 0.6[89] over RIIO-GD1 and the first three years (actuals) of RIIO-GD2, as shown in Figure 8 below. However, we observe notable step changes in this relationship in the forecast data for some companies.

5.320 For NGN, this ratio increases sharply to just below 1 from 2024/25, year 4 of RIIO-GD2 and remains at this level for the remainder of RIIO-GD2 and throughout RIIO-GD3. Similarly, for Cadent, the trend line exhibits a sharp increase to around 0.8 at the start of RIIO-GD3 and stays at this level for the remainder of the forecast. WWU exhibits a moderate increase over the forecast, reaching a maximum of around 0.7, whilst SGN remain at around 0.6 throughout the entirety of the periods shown on the chart.

[87] In metres cubed (m3)
[88] Each diameter band typically covers a range of diameters. We made standardised assumptions for each commissioned and decommissioned diameter band, based on reasonable mid-points of the band for decommissioned mains, and mid-points consistent with standard commercially available pipe diameters for commissioned mains.
[89] The ratio is below 1 because newly commissioned plastic mains can be run at higher pressures than the iron mains they are replacing, allowing throughput and peak capacity to be maintained, while the physical volume of the main decreases.

Figure 8: Ratio of volume (m3) of mains lay:volume (m3) of mains abandoned for Tier 1 mains



Source: Ofgem analysis using GDNs BPDT data. This chart depicts the ratio of the volume of the pipes commissioned for every $1m^3$ of pipes decommissioned throughout RIIO-GD1, RIIO-GD2, and RIIO-GD3.

5.321 Based on this analysis, we have drawn the following conclusions:

- There is a clear historical relationship between the capacity commissioned, and the capacity decommissioned across RIIO-GD1 and the actuals reported for RIIO-GD2 (years 1 to 3). This suggests that there have not been significant increases or decreases in overall network capacity as a result of the Tier 1 mains replacement programme since the start of RIIO-GD1.
- During the forecast period (RIIO-GD3) these relationships have changed for Cadent and NGN, resulting in a step change increase in the ratio of capacity laid to capacity abandoned. This change is not seen in the forecasts of SGN and WWU.
- The step change in the capacity ratio implies an expect increase in network capacity for NGN and Cadent from yr 4 of RIIO-GD2 and RIIO-GD3 respectively. NGN delivered an average ratio of 0.65 throughout RIIO-GD1

and the first three years of RIIO-GD2, this has increased to 0.93 for the forecast period, implying a 44% increase in capacity. Similarly, Cadent has forecasted on average of 19% increase in capacity across their networks. WWU have forecasts a 14% increase, although this increase mostly occurs in the final year of the data, which is beyond RIIO-GD3. SGN's forecast is flat. We do not consider there to be clear engineering or economic rationale for such a change, and none has been put forward in the companies' Business Plans.

5.322 Companies have not provided evidence why this relationship would change in RIIO-GD3.[90] We looked at the GDNs 1-in-20 capacity data and customer numbers in their BPDTs submissions. GDNs peak forecasts are mixed, with Cadent and NGN are forecasting decreases over RIIO-GD3, while WWU and SGN expect a slight increase from current levels. All networks forecast of customer numbers are broadly flat for RIIO-GD3 with some immaterial fluctuation in numbers above and below. We don't consider any of this evidence supports a step-change increase in the capacity of the Tier 1 network during RIIO-GD3.

5.323 This aligns with networks own assumptions, as set out in their RIIO-GD3 Business Plans. Cadent stated that "During RIIO-GD3, our base-case supply-demand scenario used demonstrates that asset health replacements should be a like-for-like sizing due to a stable 1-in-20-year peak-winter demand."[91] NGN's plan states "Our forecast peak gas demand remains virtually constant at approximately 480 TWh throughout RIIO-GD3. This is predominantly due to the legislative requirement to plan for the worst-case winter scenario (i.e. 1 in 20) with the existing customer base of 2. 6 million."

5.324 Considering all the evidence discussed, we have concerns that there is significant inconsistency in submitted Tier 1 mains forecasts in RIIO-GD3 Business Plans. Some forecasts are clearly inconsistent with the forward-looking expectations around network growth. We consider that NGN and Cadent have submitted forecasts which could lead to material adverse outcomes from our cost assessment process, given the relative share Tier 1 mains within the repex synthetic cost driver and totex CSV. We also note the varying levels of uncertainty and differences in assumptions, confirmed by the GDNs themselves, that underpin these forecasts.

[90] Volume and capacity are used interchangeably and are measured in metres-cubed (m^3)
[91] Cadent's RIIO-3 Business Plan, Appendix 10 – Network Asset Management Strategy (p.30)

5.325 We have determined that it is necessary to normalise all Tier 1 repex forecasts in our Final Determinations, to ensure a consistent set of assumptions are applied across the industry. Normalising forecasts protects both customers from unjustified cost increases and networks from being disadvantaged in the benchmarking process and being underfunded.

5.326 We have normalised the Tier 1 mains commissioned workloads for each GDN used within the totex model. We have used assumptions on the ratio of each diameter band of commissioned pipes to each diameter band of decommissioned pipe, taken from evidence submitted by WWU in its consultation response. We found WWU's approach to forecasting its Tier 1 mains workloads to be the most robust, built bottom-up and informed by highly detailed network models. It has also demonstrated strong historical accuracy across its RIIO-GD2 forecasts, with only very limited variation in its outturn Tier 1 diameter band mix to date. For these reasons, we consider WWU's data to be a reliable proxy for expected industry standards.

5.327 We have used submitted decommissioned mixes for each network as per the BPDTs. We consider these forecasts to have less uncertainty, as there are less than seven years of the Tier 1 programme remaining, of which five are in RIIO-GD3. Therefore, there is limited opportunity for GDNs to significantly change the mix of work that needs to be undertaken.

5.328 For each decommissioned diameter band, we multiply by the proportion of that band that is replaced by a given commissioned diameter band (eg Diameter Band A is replaced by 100% Diameter Band A, Diameter Band B is replaced by 98% of Diameter Band A and 2% Diameter Band B). The resulting volumes are the normalised workload forecasts that we used in the calculation of the Tier 1 repex synthetic driver within the totex model.

5.329 We also applied a corresponding pre-modelling reduction to submitted costs. This was calculated by multiplying the normalised workload by the submitted unit costs for each diameter band and taking the difference between the submitted cost and the normalised cost to reach the value of the disallowance. We consider it consistent to adjust both costs and workloads, as this ensures the underlying unit cost relationship remains unchanged prior to the running the benchmarking, allowing the regression analysis to determine any further inefficiencies implicit in the submitted cost forecasts.

Tier 1 Forecasts Lay to Abandonment Ratio

5.330 The lay to abandonment ratio is a measure used to assess the relationship between the length of new mains laid (commissioned) and old mains abandoned (decommissioned). Historically the industry has delivered a lay-to-abandon (lay:abandon) ratio of around 0.974, which means that on average across the industry there 2.6% less kilometres of pipe laid than has been abandoned.92 In RIIO-GD3, Cadent, NGN and WWU have submitted forecasts which suggests they will deliver a lay:abandon ratio of 1. SGN is the only company forecasting lay:abandon ratios below 1 for its two networks in RIIO-GD3.

5.331 SGN raised concerns within its consultation response that the forecasts of other companies were different relative to the historic average and in terms of underlying engineering logic. They suggested this would disadvantage them in the benchmarking, as it would reduce the value of the repex component of their cost driver, all else equal, relative to the other GDNs.

5.332 We asked networks to explain the rationale behind their RIIO-GD3 forecasts, particularly where lay:abandon ratios were increasing from historical levels. Companies' explanations included increasing complexity leading to more open cut, higher utilisation of strategic open cut to enable more downstream insertion, and the increasing need to find alternative routes for mains due to external factors.

5.333 We have decided to normalise SGN's lay:abandon ratio to 1 for both of its networks, in line with the three other companies, in our Final Determinations. We recognise that there may be valid engineering reasons for an increase in the lay:abandon ratio over RIIO-GD3. However, noting the significant inconsistencies discussed above in companies Tier 1 forecast assumptions, we consider it sensible to align lay:abandon ratios as part of our approach to normalising Tier 1 mains forecasts between GDNs. We think this is consistent with ensuring balance between companies when it comes to totex benchmarking inputs.

[92] For example, this can occur due to network reconfiguration or where two mains being decommissioned run in parallel down either side of a street, but can be replaced with a single new main running down one side.

Capex synthetic cost driver

Background

5.334 Capital expenditure (capex) refers to the costs incurred by a regulated network company in investing in long-lived assets that are essential for the delivery of services and the resilience of the network.

5.335 Connections and reinforcement are two sub-categories of capex investment. Connections costs relate to the cost of connecting new domestic and non-domestic customers to the gas network. Reinforcement costs are costs associated with increasing capacity of sections of the network, either to support growth in local demand, enable operational changes in the network or to enable greater use of live insertion techniques for repex.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost driver design	Synthetic workload driver covering connections and reinforcement activities	Same as FD
Cost driver methodology	Sum of products of synthetic unit costs multiplied by workloads for each asset type within connections and reinforcement cost activities Capex synthetic unit costs calculated as industry average unit costs using historical and forecast data with outliers removed	Same as FD
Adjustments to net costs	Allowed 100% funding of connections overheads[93] in year 1 of RIIO-GD3, 50% funding in year 2 and 0% funding for year 3 onwards	Connections as per GDN submitted data.

Final Determination rationale and Draft Determination responses

5.336 In our Draft Determinations, we proposed to maintain the same approach to capex cost drivers within the totex CSV. We have decided to maintain this position at RIIO-GD3 final determinations. We think that a workload driver remains the best approach to explaining connections and reinforcements costs.

5.337 SGN disagreed with our approach to the capex synthetic cost driver which they suggested should be removed from the CSV on the basis that connections are no longer linked to totex allowances (as they are fully customer funded since the removal of the DLCA), and reinforcement requires a technical review rather than benchmarking.

[93] These overheads have been benchmarked using an industry average unit cost for the overheads

Connections

5.338 In our Draft Determinations we accepted all proposed workloads for connections and proposed the continued use of a workload driver to explain the costs associated with connections. We have decided to maintain this position in our Final Determinations.

5.339 A number of GDNs have raised concerns that removing the Domestic Connection Load Allowance (DLCA) without adjusting the obligation to provide mandatory quotation and design services may lead to stranded overhead costs across RIIO-GD3. In recognising the uncertainty of future connections, we have decided to provide funding for 100% of benchmarked overheads in Year 1 and 50% in Year 2. We think that this will allow the companies to adjust sufficiently to the removal of the DLCA by year 3 of RIIO-GD3.

5.340 We also noted that there was significant variation in cost recovery assumptions within company Business Plans. Cadent, NGN, and WWU assumed between 88% and 100% recovery, whereas SGN assumes 27%. To ensure consistency across networks, we have normalised these assumptions and applied 100% cost recovery from customers, excluding the overhead funding referenced above.

Reinforcement

5.341 There are two types of reinforcements workload, one which relates to mains reinforcements and the other which relate to the growth governor cost category. Consistent with the position in our Draft Determinations and our RIIO-GD2 decision, to separately assess reinforcement activities associated with the installation of new district and service governors. This decision is motivated by the limited and irregular nature of the governor data. Further details can be found in the non-regression section of this chapter.

5.342 In line with Draft Determinations, we have decided to assess reinforcement using a synthetic workload driver. The synthetic cost driver includes two synthetic costs one for those projects where the main is less than 180mm and those where the project is greater than 180mm. Notably, no distinction is made between general and specific reinforcement in the model on the basis that they have similar unit costs.

5.343 The needs case for reinforcement workloads is subject to engineering assessment. In our Draft Determinations we proposed to move ex ante funding for reinforcement workloads, except for reinforcement for insertion to support repex work, into uncertainty mechanisms in RIIO-GD3. We have maintained this

position in our Final Determinations and have adjusted the capex synthetic driver accordingly. Details of the disallowances are presented in detail within the company annexes.

CSV weighting

Background

5.344 In our Draft Determinations, we proposed to maintain our RIIO-GD2 approach to determining the weights of each component within the totex CSV for RIIO-GD3. The proposed approach was to weight the components within the totex CSV based on industry average submitted cost shares for the activities associated with each cost driver. In reaching that view, we considered an alternative approach put forward by Cadent, which suggested using GDN- and year-specific cost shares as the weights.

Final Determinations summary

Design	Final Determination	Draft Determination
Weighting approach	Weight CSV components based on industry average submitted cost shares for activities associated with each driver	Same as FD
Period of averaging	Average of submitted RIIO-GD1, RIIO-GD2 and RIIO-GD3 costs	Same as FD

Final Determination rationale and Draft Determination responses

5.345 We have decided to retain our approach to determining the weights of each component within the totex CSV for RIIO-GD3. The weight of each CSV component, or cost driver, is calculated as the relative proportion of average industry submitted costs corresponding to the cost category associated with each cost driver, for the period 2013/14 to 2031/32 (actual costs up to 2024/25 and forecast costs from 2025/26 onwards). This is consistent with the idea that our totex regression model is seeking to determine efficient costs for a notional efficient company – with a cost structure equivalent to the industry average. We consider that our approach has a strong engineering and economic rationale, it is transparent and well understood by industry and is statistically robust. We also note that it is consistent with previous price controls. While alternative approaches are available, we find that they either depart from the idea of a notional efficient company, increase the risk of controlling for endogenous factors, or cannot be robustly implemented with the available data.

5.346 Cadent and WWU agreed with our approach to CSV weighting. Cadent noted that our approach is consistent with previous price controls and is seen as robust for

benchmarking purposes. With respect to the alternative approaches set out in its Business Plan, Cadent noted that while it continues to consider that those approaches represent an improvement on our approach, it accepts that those approaches do not materially improve our RIIO-GD3 model.

5.347 NGN did not directly disagree with our approach to CSV weighting but expressed wider concerns with respect to the accuracy of other GDNs' cost driver forecasts and with the fact that that the CSV does not capture group scale effects. We discuss our assessment of each of the cost drivers, including the normalisations we have applied to the Tier 1 mains forecasts, in the sections above. We discuss group level scale effects in the MEAV section.

5.348 SGN disagreed with our CSV weighting approach. It argued that our approach, which it noted implies benchmarking against a notional company, fails to recognise regional differences and legacy network configurations. SGN argued for what it called a 'bottom-up' CSV approach, which it claimed better reflects actual activity shares and regional needs. Specifically with respect to CSV weighting, SGN proposed that instead of using the average expenditure share for each cost category we instead use the median expenditure share amongst the seven GDNs. SGN did not provide a clear justification for why it considers that its median approach would provide a more appropriate representation of the cost structure of a notional efficient company.

5.349 We tested SGN's proposed CSV weighting approach and found that it resulted in a lower adjusted R2, which indicates worse statistical fit. Moreover, we consider that there is a stronger economic and engineering rationale for our approach, as average industry weights are more representative of the notional efficient company. In a scenario where there was a highly skewed distribution in cost structures, the cost structure for the median company could be very different from the average cost structure and from the cost structure of the company at the extreme end of the distribution. Together with the fact that the median approach was not consulted on at DDs, and the support for our approach from the other three GDNs, we consider that it is more appropriate to continue to use our average weighting approach.

5.350 Two DNOs disagreed with our CSV weighting approach. One states that it introduces further endogeneity (implying that GDNs have a degree of control over their cost structure), which undermines the integrity of the benchmarking model (which is intended to capture only exogenous costs drivers, or cost drivers that are outside the control of GDNs). The other notes that fixed CSV weights imply that the average cost split is efficient for all networks. Both suggested estimating

CSV weights statistically, for example through 'pre-regression', Bayesian Model Averaging, stepwise regression, LASSO, or Principal Component Analysis.

5.351 We have tested a number of alternative totex regression models and approaches to CSV weighting as part of RIIO-2 and in RIIO-3 (both before and after DDs). We have found that a major practical constraint to the use of more data-driven alternative model specifications, such as those proposed in the previous paragraph, is the relatively small number of data points available and hence the limited number of model parameters that can be robustly estimated statistically. This problem is compounded by collinearity between cost drivers. Taken together, these two factors mean that more complex and data-driven models typically perform worse in terms of statistical fit and/or produce illogical results (for example, negative coefficients). These practical constraints are a key reason for the use of a CSV in the first place, where the choice of constituent elements is rooted in engineering logic. We have found that the use of statistical methods to determine the composition and/or weight of the CSV produces results that are not sufficiently robust and which can contradict the underlying engineering rationale.

5.352 Table 23 below sets out the weights applied to each component in our totex CSV of our Final Determinations.

Table 23: Weights of components within the totex CSV (%)

Component	**Weight**
Repex synthetic cost driver	39%
MEAV	37%
Maintenance MEAV	8%
Total external condition reports	6%
Emergency CSV	5%
Connections	4%
Reinforcements	1%

Density

5.353 Cadent supported the use of a single top-down totex model, with the CSV as a cost driver, but proposed the inclusion of population density as an additional explanatory variable. Cadent argued that the omissions of a density variable leads to omitted variable bias and results in the under-estimation of the efficiency of its operations in the London area.

5.354 We have decided not to include a density variable in our top-down totex regression model. Whilst density appears to have a bearing on GDN costs, evidence submitted by WWU suggests that this relationship is more complex than can be represented by a density variable. More specifically, unit costs for some activities appear to increase both for areas with relatively high and relatively low density, compared to areas of average density. Our interpretation of this result is that costs can increase both with higher urbanisation, due to factors such as road congestion and more limited working space, and with sparsity, due to factors such as longer distances between operating bases and the location where work is being delivered or the presence of economies of scale.

5.355 We consider that the use of a density variable could therefore introduce bias of its own in the context of modelling the GD sector and potentially result in under-funding of GDNs operating in sparser regions. We consider that pre-modelling adjustments and normalisations relating to urbanity and sparsity are a more effective way of capturing the underlying relationships between density and cost for the GD sector. For example, we only apply sparsity adjustments to emergency costs, but not urbanity, reflecting the specific requirements on GDNs to ensure they meet minimum response times. A density variable would result in a less targeted approach to accounting for these additional costs. Pre-modelling adjustments and normalisations are intended to account for differences in GDNs' costs driven by the specific characteristics of the area in which they operate (see the pre-modelling adjustments and normalisations section for further details on our proposed approach).

5.356 We consider that our approach also results in a specification of the regression model that is more transparent and has a stronger engineering logic than would be the case if using an additional density variable. As acknowledged in Cadent's response, unit costs are not expected to increase with density for all cost areas. The introduction of a density variable would have the effect of applying the same density factor to all cost areas for a given GDN, regardless of whether those costs are expected to increase with density or not (noting that this density factor would be multiplied through by the CSV, which includes all cost areas). This would introduce bias and weaken the engineering logic underlying the regression model. In contrast, pre-modelling adjustments and normalisations are targeted only at those cost areas where there is evidence that costs are influenced by the factor in question.

5.357 We tested model specifications that include a density variable alongside the CSV, as proposed by Cadent. We ran these models in combination with different

approaches to pre-modelling adjustments and normalisations, and both including and excluding Cadent's London GDN. Our results show that the addition of a density variable can lead to a slight improvement in model fit. However, adjusting for density within the model specification and sparsity through pre-modelling adjustments does not provide a single framework for addressing inter-related issues. We believe it more appropriate and effective to use a single framework using pre-modelling adjustments to reflect differences in regional factors. We also note we have made changes to regional factors (adopting the Nature of Streets adjustment), which address some of the issues that Cadent has raised in this area. On balance, we think that the slight improvement in model fit from adding a density variable does not justify a departure from the more coherent approach using regional factors, the strong engineering and economic rationale underlying the current model specification or the risk of introducing new forms of bias.

Econometric model results

Background

5.358 Our totex model takes the following form:

$$\log(totex_{it}) = \beta_0 + \beta_1 \log(totex\ CSV_{it}) + \beta_2 t1 + \beta_3 t2 + \epsilon_{it}$$

5.359 Where ß0 is a constant term, ß1 is the coefficient associated with the cost driver (totex CSV) and ϵit is the error term representing the component of costs not explained by the cost driver (ie noise, measurement errors and inefficiency) for GDN i at time t. The linear time trends are accounted for by the t1 and t2 terms.

Final Determinations decision and rationale

5.360 Table 24 below presents our regression model estimation results. The estimated coefficient for the totex CSV is 0.90, which implies a 1% change in the value of the cost driver results in a 0.90% change in totex. The t1 time trend is very slightly positive, suggesting costs have trended marginally upwards over time (all else being equal). The forecast time trend t2 is also positive, which indicates an expectation that totex is expected to increase over the forecast period relative to actual levels seen in RIIO-GD1 and RIIO-GD2 (all else being equal). This is consistent with the cost increases included in the GDNs submitted totex for RIIO-GD3.

5.361 The overall model fit remains strong, with an adjusted R-squared (overall model predictive power) of 0.908, consistent with our DD model at 0.906. This suggests our FD model is effective in explaining the relationship between costs and cost drivers over time and is robust in predicting efficient totex based on expected

cost drivers in RIIO-GD3. The model also passed all of the statistical robustness tests that we applied.[94]

Table 24: Regression model estimation results

Ln-totex	**Coefficients[95]**
Ln_totex_csv	0.897*** (0.000)
t1	0.006* (0.082)
t2	0.020* (0.055)
Constant	-0.999 (0.011)
Adjusted R^2	0.908
Observations	144

* statistical significance at the 10% level

** statistical significance at the 5% level

*** statistical significance at the 1% level

Non-regression analysis

Overview

5.362 We propose to exclude a number of cost activities from our econometric modelling due to the variation of these costs across different networks and because costs are not well represented by our proposed cost drivers within the totex CSV.

5.363 We are proposing to maintain our RIIO-GD2 approach and assess the following activities through non-regression approaches: Multiple Occupancy Buildings (MOBs), Repex diversions, Streetworks, Growth Governors, Smart metering, Land remediation and Statutory Independent Undertakings (SIUs).

5.364 For each area, we have undertaken both qualitative and quantitative reviews of the Business Plan submissions and developed an approach to assessing efficient

[94] We considered model performance against the following statistical tests: RESET test, normality test, heteroskedasticity, pooling test.
[95] P-values are shown below the coefficients in parentheses

costs for RIIO-GD3. We have also incorporated proposed adjustments to workloads and associated costs based on the outcome of our engineering review. These are set out in further detail for each category below.

Multiple Occupancy Buildings (MOBs)

Background

5.365 MOBs covers costs associated with maintaining, refurbishing, replacing or decommissioning gas network assets that provide gas to buildings with multiple occupants (eg blocks of flats). While the majority of these are domestic customers, commercial customers are also included which are known as Complex Distribution Systems (CDS) (eg where multiple shops within a shopping centre are connected to the gas network). Our assessment of MOBs costs covers repex (replacement or refurbishment of assets), capex (connections of new MOBs) and opex (maintenance of existing assets). The varying and unique nature of many MOBs means the costs of maintaining and replacing/refurbishing the risers varies significantly between location and GDN. All three categories are assessed through the non-regression route.

5.366 In our Draft Determinations, we undertook an engineering and cost assessment review of GDN proposals for MOBs investments. Our engineering review highlighted inconsistencies in how GDNs interpreted updated HSE guidance on polyethylene (PE) riser mains, which does not mandate wholesale replacement but requires condition-based interventions. As a result, we proposed varying cost reductions across GDNs, removing funding for proactive riser replacement and other activities where needs cases were unclear or volumes appeared unjustified. We allowed only reactive works for failed risers and certain valve replacements and removed costs relating to CDS for WWU and SGN due to uncertainties over scope and need in our Draft Determinations, amounting to £5.1m and £3.9m respectively. Overall, we proposed reductions of £105.1m for Cadent, £2.6m for NGN, £238.9m for SGN, and £11.8m for WWU in our Draft Determinations.

Final Determinations summary

Design	Final Determination	Draft Determination
Costs activities assessed	MOBs repex - riser replacement or refurbishment MOBs capex - connections MOBs opex - maintenance	Same as FD
RIIO-GD3 costs allowed	Allowed £445.7m at FDs	Partial Disallowances: Cadent, £105.1m; NGN, £2.6m; SGN £238.9m; and WWU, £11.8m

Design	Final Determination	Draft Determination
	Partial Disallowances: NGN, £2.4m; SGN, £45.9m; and WWU, £6.0m.	

Final Determinations rationale and Draft Determinations responses

5.367 We have decided to assess MOBs costs through non-regression benchmarking analysis and have proposed to allow £445.7m in MOBs costs for the GDNs in RIIO-GD3. We received responses from some of the GDNs, mostly focusing on issues specific to them. NGN and WWU did not raise any concerns in their consultation responses regarding our cost assessment approach for MOBs in our Draft Determinations.

5.368 Cadent supported our use of non-regression benchmarking for cost areas that are not suitable for regression analysis. However, they raised three key concerns regarding our treatment of MOBs costs in our Draft Determinations:

5.369 Firstly, while we accepted Cadent's proposals for opex and "replacement on failure" repex costs, we proposed to disallow two elements of planned replacement workload: PE riser mains on high-rise buildings, and other proactive riser replacement, following engineering review.

5.370 Secondly, Cadent also stated that its unit costs for MOBs riser repex are consistently lower than the industry average, and that our approach risks double-counting efficiency challenges by applying both a unit cost benchmark and a catch-up efficiency adjustment. As such, it suggested that its MOBs repex unit costs were uplifted to the industry average to avoid penalising efficient networks.

5.371 Lastly, Cadent asked us to incorporate revised MOBs routine maintenance costs in our modelling for Final Determinations, in the North London network only, due to an allocation issue its original BPDT submission.

5.372 Cadent’s requested funding for MOBs has been accepted in full in our Final Determinations, increasing from £35.70 million in our Draft Determinations to £142.10 million. We have decided to allow Cadent funding to replace some PE risers proactively on a condition basis, because they have been evidenced to be high risk. This ensures funding is allocated to assets with the greatest priority (see Chapter 4). This is in line with our updated engineering recommendation, following Cadent providing detailed information about the risk profile of its PE riser fleet. We have also accepted Cadent’s request to incorporate revised MOBs routine maintenance costs into our modelling for Final Determinations, as this is consistent with our approach to correcting similar minor data updates from other

GDNs. However, we do not agree with uplifting Cadent's MOBs riser repex unit rates to match the industry average. We have decided to keep the existing unit rates that Cadent submitted and continue with our current approach as set out in our Draft Determinations. We do not think it is in consumers interest for them to pay above the cost incurred needed to deliver the work they claim is necessary.

5.373 SGN acknowledged that non-regression benchmarking is important for determining allowances where costs and drivers are not directly comparable across networks. They highlighted that MOBs costs are highly variable and influenced by factors such as building height, regional standards, and recent legislative changes. SGN also noted that the Building Safety Regulator (BSR) is driving stricter standards increasing costs and administrative burden, and that Scottish legislation imposes additional requirements for MOBs replacements. As such, SGN argued that the current cost drivers used in non-regression benchmarking (e.g. building height), do not adequately capture the true cost dynamics of MOBs work. Given the high uncertainty and lack of robust data, SGN proposed a rolling two-year reopener mechanism for MOBs, with initial funding provided ex ante and subsequent adjustments based on improved data collection.

5.374 We have decided to allow £205m of SGN's original submission of £242m for Final Determinations, compared to an allowance of £45m in our Draft Determinations. We approved the £205m on engineering grounds, as SGN submitted improved data for Final Determinations. However, proposals relating to PE and CDS were not justified. While we recognise SGN's rationale for wanting to proactively replace PE risers on MOBs, this is not currently a HSE requirement. We are not accepting SGN's proposal for a re-opener because we consider that GDNs have had adequate funding in RIIO-GD2 to survey and understand their MOB populations and the costs associated with addressing these in RIIO-GD3. If, during the price control period, the HSE changes its policy on proactive or retroactive PE riser replacement, SGN will be able to apply for funding for this workload through the HSE policy re-opener mechanism (see Chapter 4 for further information). We rejected the costs relating to CDS because SGN did not provide sufficient details on the scope of the works. This was because surveys had not been completed, and asset information was unavailable.

5.375 In addition, although we agree that enhanced reporting could help capture additional cost driver data (such as scaffolding costs and internal/external replacements), we do not agree with SGN's recommendation to fund two years upfront to enable a mid-period review of costs, as we do not think that we will be able to gather sufficient data within this timeframe. Instead, we will work with

GDNs during RIIO-GD3 to explore ways of improving reporting around MOBs to gather better data on additional cost drivers. We therefore have maintained our current approach of full ex ante funding for MOBs RIIO-GD3.

5.376 Table 25 summarises the submitted MOBs costs per network, and the cost adjustments applied. The modelled costs presented below are costs after the application of disallowances and non-regression benchmarking approaches, but before the catch-up efficiency and ongoing efficiency challenges are applied.

Table 25: All GDNs - MOBs proposed non-regression cost adjustments for RIIO-GD3 (£m, 23/24 prices)

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
Cadent - EoE	42.5	41.9	15.9	-0.6	-1%
Cadent - Lon	101.7	100.3	48.5	-1.5	-1%
Cadent - NW	25.2	24.8	7.9	-0.4	-2%
Cadent - WM	23.9	23.5	7.5	-0.3	-1%
Cadent - TOTAL	193.3	190.5	79.8	-2.8	-1%
NGN	7.4	5.0	7.4	-2.4	-32%
SGN - Sc	55.2	43.3	4.4	-11.9	-22%
SGN - So	210.4	174.6	5.2	-35.8	-17%
SGN - TOTAL	265.6	217.9	9.6	-47.7	-18%
WWU	38.4	32.3	32.2	-6.0	-16%
GD sector	504.6	445.7	129.0	-58.9	-12%

Repex diversions

Background

5.377 Repex diversions involve mains replacement or relay work required when a GDN must reroute sections of its network. These diversions are typically initiated by third parties, with costs largely rechargeable to them. However, in some cases the GDNs are required to absorb part or all of the associated costs.

5.378 There is a re-opener associated with repex diversions which allows networks to recover costs beyond baseline funding. This is described in Chapter 4.

Final Determinations summary

Design	Final Determination	Draft Determination
Costs activities assessed	Repex mains and services resulting from network diversions	Same as FD
RIIO-GD3 costs allowed	Allowed £252m in total Partial disallowances for all networks	Allowed £49.1m in total Partial disallowances for all networks

Final Determinations rationale and Draft Determinations responses

5.379 We have maintained our Draft Determinations position and have decided to separately assess on the basis that the associated costs are highly uncertain as they are driven by third parties to the companies.

5.380 In our Final Determinations, we have allowed £252m of totex funding for diversions across the GD sector for RIIO-GD3. We have disallowed £66m for Cadent, £1m for NGN, £4m for SGN and £2m for WWU. This is an update from our Draft Determination position where we proposed to disallow £238.4m for Cadent, £23.9m for NGN and £2m for WWU following our engineering review of needs case. These disallowances incorporate both those made on a needs case basis at the engineering assessment stage and those made at the cost assessment review stage.

5.381 At the cost assessment stage, we have adjusted costs for each company based on the run rates of their historic unit costs for RIIO-GD1 and RIIO-GD2. This has resulted in the total adjustments and consequentially total allowed costs presented in Table 26.

5.382 The modelled costs presented below are costs after the application of disallowances and non-regression benchmarking approaches, but before the catch-up efficiency and ongoing efficiency challenges are applied.

Table 26: All GDNs - Diversions proposed non-regression cost adjustments for RIIO-GD3 (£m, 23/24 prices)

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
Cadent - EoE	76.9	55.6	0.0	-21.3	-28%
Cadent - Lon	81.7	58.9	0.0	-22.8	-28%
Cadent - NW	52.0	37.3	0.0	-14.8	-28%
Cadent - WM	28.0	20.4	0.0	-7.6	-27%
Cadent - TOTAL	238.6	172.2	0.0	-66.4	-28%
NGN	24.0	22.9	0.0	-1.1	-5%
SGN - Sc	15.2	15.1	12.0	-0.1	-1%
SGN - So	25.0	20.8	16.0	-4.2	-17%
SGN - TOTAL	40.3	35.9	28.0	-4.3	-11%
WWU	23.4	21.1	21.1	-2.3	-10%
GD sector	326.2	252.1	49.1	-74.1	-23%

Streetworks

Background

5.383 Streetworks relates to activities that enable, and support works in the public domain, such as permits and inspections relating to working in the highway. The GDNs proposed total baseline costs of £326m in RIIO-GD3.

5.384 In our Draft Determinations, we proposed to base our assessment on each network's own average streetworks costs taken between RIIO-GD2 and RIIO-GD3, a period which covers both actual historical and forecast data. We also proposed to disallow all costs relating to penalties and charges.

5.385 We proposed not to include assumptions regarding the introduction of new permit schemes in RIIO-GD3 within baseline streetworks cost allowances, with these instead being accommodated under the Specified Streetworks Cost Re-opener

Final Determinations summary

Design	Final Determination	Draft Determination
Costs activities assessed	Costs associated with streetworks and support work when operating in the public domain Cost associated with loss of productivity assessed through regression, not included within separate assessment	Same as FD Costs associated with loss of productivity included within separate assessment.
RIIO-GD3 costs allowed	Allowed £515.3m in total Partial disallowances applied for all networks	Allowed £676.7m in total Partial disallowances applied for all networks
Assessment methodology	Allowed costs for RIIO-GD3 based on historical and forecast 10-year average for 2022-2031 Penalties and charges costs not funded	Same as FD Same as FD

Final Determinations rationale and Draft Determinations responses

5.386 We have decided to set baseline streetworks allowances for RIIO-GD3 using each GDN's ten-year averaging period from 2022 to 2031. This is unchanged from the proposed approach in our Draft Determinations.

5.387 We have decided to remove costs associated with loss of productivity from the value of the streetworks costs excluded from the regression. For more information on our decision and rationale on the treatment of streetworks loss of productivity costs please refer to the Exclusions section further up.

5.388 Following the GDNs' responses to our Draft Determinations, we reviewed the submitted costs provided by all companies further in relation to streetworks. These noted increasing challenges with forecasting streetworks costs and showed significant variance in forecasted rates of growth between GDNs.

5.389 GDN responses to our Draft Determinations focused on three main areas:

- inconsistency in reporting of streetworks costs, especially in relation to loss of productivity costs, and what elements should be separately assessed or form part of the regression analysis;
- the methodology used to calculate streetworks RIIO-GD3 allowances that are separately assessed (ie non-regression analysis); and
- whether penalties and charges should be allowed.

5.390 For further details on our decision and rationale in relation to the inconsistency in reporting of street works costs, the treatment of loss of productivity costs, and the elements that should be separately assessed or form part of the regression analysis please refer to the Exclusions Section in Chapter 5 of this GD Annex.

5.391 In relation to the ten-year averaging period used (2022-26 and 2027-31) to set streetworks allowances, Cadent, SGN and WWU stated that the methodology underfunds their requirements over the RIIO-GD3 period as the initial years are not representative of rising costs going forward. Cadent and WWU recommended a shorter averaging period to set the allowances, excluding the initial two to three years of the ten-year period proposed. NGN raised a concern of overreliance on untested forecast data in relation to streetworks, and Cadent acknowledged the difficulty in forecasting streetworks accurately due to their reliance on changing requirements by highway agencies and local authorities.

5.392 It is important to note that that GDNs' responses in relation to the retainment of the RIIO-GD2 scope of the Specified Streetworks Costs Re-opener are related to the methodology selection for setting streetworks allowances, where all GDNs suggested an expansion of scope to the re-opener. We have decided to expand the scope of the Specified Streetworks Costs Re-opener to include hazardous waste management costs incurred due to a new protocol, and to allow for funding for new requirements under existing streetworks schemes, see Chapter 4. This enables GDNs to recover efficient costs if they arise within RIIO-GD3 and protects consumers by avoiding the inclusion of uncertain streetworks spend in baseline allowances.

5.393 On the disallowance of penalties and charges related to streetworks, Cadent and SGN did not agree with their disallowances stating that they had little control over them.

5.394 We have reviewed different methodologies as part of our assessment on deciding our preferred approach for the calculation of RIIO-GD3 streetworks allowances. These were simple averages, time weighted averages, and Compound Annual Growth Rate (CAGR) across different periods and with differing starting points. One of the main arguments put forward for a revised approach was the inability of the current methodology to successfully capture rising costs and that the current streetworks re-opener only allows for new requirements and not changes to existing requirements. As discussed in Chapter 4, the Specified Streetworks Costs Re-opener has now been updated to ensure that the GDNs are able to apply for funding for new requirements under existing streetworks schemes.

5.395 We have decided that using the ten-year averaging period (2022-26 and 2027-31) remains appropriate for calculating RIIO-GD3 streetworks allowances, because:

- there is an avenue to re-coupe unforeseen expenditures if forecasts are significantly deviating from actual spend for both existing and new requirements via the Specified Streetworks Costs Re-opener;
- it is hard to forecast streetworks due to high uncertainty and complexity; and
- there are concerns of overreliance on untested forecast data in relation to streetworks.

5.396 We have decided to retain our Draft Determinations proposal to disallow all costs relating to penalties and charges. These conditions are in place to ensure sites are managed safely, effectively, and to minimise disruption to the general public, and there must be a strong incentive on GDNs to comply with these requirements.

5.397 We have decided on a total reduction of £116m from the submitted streetworks costs. This includes a £44m reduction for Cadent, £11m reduction for NGN, £54m reduction for SGN and a £7m reduction for WWU, shown in Table 27 below.

5.398 The modelled costs presented in the table below are costs after the application of disallowances and non-regression benchmarking approaches, but before the catch-up efficiency and ongoing efficiency challenges are applied.

Table 27: All GDNs - Streetworks proposed non-regression cost adjustments for RIIO-GD3 (£m, 23/24 prices)

Network Company	**Total submitted* (£m)**	**FD modelled (£m)**	**DD modelled* (£m)**	**Difference FD modelled vs submitted (£m)**	**Difference FD modelled vs submitted (%)**
Cadent - EoE	90.7	78.3	107.2	-12.4	-14%
Cadent - Lon	146.5	123.6	145.6	-22.8	-16%
Cadent - NW	50.1	43.6	60.1	-6.6	-13%
Cadent - WM	35.9	33.2	48.7	-2.7	-7%
Cadent - TOTAL	323.2	278.7	361.5	-44.5	-14%

Network Company	Total submitted* (£m)	FD modelled (£m)	DD modelled* (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
NGN	38.9	28.4	88.4**	-10.5	-27%
SGN - Sc	18.7	17.4	13.5	-1.3	-7%
SGN - So	195.2	142.7	173.5	-52.5	-27%
SGN - TOTAL	213.9	160.1	187.1	-53.8	-25%
WWU	55.4	48.1	39.6	-7.3	-13%
GD sector	631.4	515.3	676.7	-116.1	-18%

* Total submitted' costs are lower for Cadent and SGN So in our Final Determinations due to moving costs associated with loss of productivity from the streetworks non-regression model and into the regression model.

** In our Draft Determinations the submitted and modelled values presented for NGN were significantly higher as the value of the costs we included for streetworks was calculated incorrectly. This has been rectified in our Final Determinations costs.

Growth governors

Background

5.399 Growth governor expenditure relates to the installation of new district and service governors associated with network reinforcement.

Final Determinations summary

Design	Final Determination	Draft Determination
Costs activities assessed	Governor upgrades as part of reinforcement works	Same as FDs
RIIO-GD3 costs allowed	Allowed £16.4m in total Partial disallowances for Cadent and SGN	Disallowed all costs and proposed to fund through UM

Final Determinations rationale and Draft Determinations responses

5.400 We have decided to assess growth governor costs within non-regression analysis, in line with our Draft Determination proposals. We have allowed £16.4m of costs for growth governors in our Final Determinations, following engineering review of further evidence provided in response to Draft Determinations.

5.401 In our Draft Determinations, we proposed to remove all costs associated with reinforcement activities into UMs for RIIO-GD3, including all of the costs associated with growth governors. Following the review of further evidence

provided in consultation responses, we have decided to provide baseline funding for growth governors for Cadent, NGN and SGN. We consider that these costs are required to allow these companies to efficiently deliver parts of their repex programmes, and therefore are beneficial to consumers. WWU did not submit any costs for growth governors in RIIO-GD3.

5.402 See Table 28 below for the costs we have allowed for growth governors in RIIO-GD3. The modelled costs presented in the table below are costs after the application of disallowances and non-regression benchmarking approaches, but before the catch-up efficiency and ongoing efficiency challenges are applied.

Table 28: All GDNs - Growth governors proposed non-regression cost adjustments for RIIO-GD3 (£m, 23/24 prices)

Network Company	**Total submitted (£m)**	**FD modelled (£m)**	**DD modelled (£m)**	**Difference FD modelled vs submitted (£m)**	**Difference FD modelled vs submitted (%)**
Cadent - EoE	3.4	2.2	0.0	-1.2	-36%
Cadent - Lon	1.0	0.6	0.0	-0.4	-43%
Cadent - NW	3.6	2.3	0.0	-1.3	-35%
Cadent - WM	0.9	0.6	0.0	-0.3	-35%
Cadent - TOTAL	8.8	5.6	0.0	-3.2	-36%
NGN	3.6	8.9	0.0	5.3	147%
SGN - Sc	1.7	0.7	0.0	-1.0	-59%
SGN - So	2.8	1.2	0.0	-1.7	-59%
SGN - TOTAL	4.5	1.9	0.0	-2.7	-59%
WWU	0.0	0.0	0.0	0.0	0%
GD sector	16.9	16.4	0.0	-0.6	-3%

Smart metering

Background

5.403 The GDNs are not responsible for installing smart meters but may incur costs for addressing issues and faults upstream of the meter either during or after a smart meter installation. These costs are largely associated with opex (Work

Management and Emergency), with some capex and repex elements. We proposed to determine efficient costs for smart metering based on applying a standardised intervention rate assumption of 2.5% for all GDNs in our Draft Determinations.

Final Determinations summary

Design	Final Determination	Draft Determination
Costs activities assessed	Costs for responding to faulty smart meter installations	Same as FD
RIIO-GD3 costs allowed	Allowed £9.5m in total Partial disallowances for NGN and SGN	Allowed £9.1m in total Partial disallowances for NGN and SGN
Intervention rate	Applied an intervention rate of 2.5% of all smart meter installations requiring callouts for all GDNs	Same as FD

Final Determinations rationale and Draft Determinations responses

5.404 We have decided to allow £10m of costs for smart metering in RIIO-GD3. We have decided to set these based on applying a standard intervention rate assumption of 2.5% for all GDNs. The adjustments we've applied are shown in Table 29.

5.405 Cadent agreed with our approach of excluding costs related to specific activities that require technical and non-regression assessment, such as smart metering. There were no comments from any other respondents.

5.406 We have decided, in line with our Draft Determination proposals, to assess smart metering costs using non-regression analysis.

5.407 The modelled costs presented in the table below are costs after the application of disallowances and non-regression benchmarking approaches, but before the catch-up efficiency and ongoing efficiency challenges are applied.

Table 29: All GDNs - Smart metering proposed non-regression cost adjustments for RIIO-GD3 (£m, 23/24 prices)

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
Cadent - EoE	2.3	2.4	2.3	0.1	6%
Cadent - Lon	1.0	1.1	1.0	0.1	7%

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
Cadent - NW	1.5	1.6	1.6	0.1	8%
Cadent - WM	1.3	1.4	1.3	0.1	7%
Cadent - TOTAL	6.2	6.6	6.2	0.1	7%
NGN	0.0	0.0	0.0	0.1	0%
SGN - Sc	1.8	0.7	0.7	-1.0	-58%
SGN - So	5.2	2.2	2.2	-3.1	-58%
SGN - TOTAL	7.0	2.9	2.9	-4.1	-58%
WWU	0.0	0.0	0.0	0.0	0%
GD sector	13.2	9.5	9.1	-3.7	-28%

Land remediation

Background

5.408 Land remediation costs are part of opex and relate to statutory remediation of gasholder and non-gasholder sites, routine site monitoring and maintenance. There were no EJPs submissions associated with this activity. We proposed to allow submitted costs in full for land remediation in our Draft Determinations.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost activities assessed	Land remediation of gasholder and non-gas holder sites	Same as FD
RIIO-GD3 costs allowed	£38.8m across all GDNs in RIIO-GD3	Same as FD

Final Determinations rationale and Draft Determinations responses

5.409 We have allowed the GDNs proposed costs of £38.8m in full for RIIO-GD3. We consider that forecast land remediation costs are generally in line with historical costs, and large work programmes such as SGN's reassessment of 50 sites are supported by external evidence. The breakdown of costs per GDN are summarised below in Table 30.

5.410 In response to our Draft Determinations, NGN and WWU raised no concerns with our assessment. Cadent and SGN expressed support for our approach, welcoming the use of non-regression benchmarking and acceptance of their cost forecasts.

5.411 The modelled costs presented in the table below are costs after the application of disallowances and non-regression benchmarking approaches, but before the catch-up efficiency and ongoing efficiency challenges are applied.

Table 30: All GDNs - Land remediation proposed non-regression cost adjustments for RIIO-GD3 (£m, 23/24 prices)

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
Cadent - EoE	2.7	2.7	2.7	0.0	0%
Cadent - Lon	0.4	0.4	0.4	0.0	0%
Cadent - NW	1.4	1.4	1.4	0.0	0%
Cadent - WM	1.0	1.0	1.0	0.0	0%
Cadent - TOTAL	5.5	5.5	5.5	0.0	0%
NGN	3.2	3.2	3.2	0.0	0%
SGN - Sc	12.4	12.4	12.1	0.0	0%
SGN - So	10.9	10.9	10.9	0.0	0%
SGN - TOTAL	23.3	23.3	23.0	0.0	0%
WWU	6.9	6.9	6.9	0.0	0%
GD sector	38.8	38.8	38.5	0.0	0%

Statutory Independent Undertakings (SIUs)

Background

5.412 SGN owns and operates five independent gas networks in remote parts of Scotland, which are referred to as SIUs. WWU also owns and operates an SIU. SGN submitted forecast costs of £45m and WWU of £0.2m for opex in RIIO-GD3.

Final Determinations summary

Design	Final Determination	Draft Determination
Costs activities assessed	SIU Opex	Same as FD
RIIO-GD3 costs allowed	£45.3m for Scotland (SGN); £0.2m for WWU	Same as FD

Final Determinations rationale and Draft Determinations responses

5.413 We have decided to allow SGN and WWU's SIU opex costs for RIIO-GD3 in full in our Final Determinations. This is consistent with our Draft Determination position. We think these costs are unique to these networks, and are distinct in nature from other opex activities that we model within the regression, due to the specific characteristics of SIU networks. Therefore, we consider it is reasonable to separately assess these costs.

5.414 In our Draft Determinations, we accepted SGN's forecast costs for SIU opex. In response, SGN agreed with our proposed approach.

5.415 We have decided not to assess SIU capex costs using non-regression benchmarking, as we consider capex activities associated with SIUs to be comparable to those undertaken across the rest of the GDNs, and therefore suitable for regression benchmarking. This is consistent with our approach in RIIO-GD2.

5.416 Table 31 summarises the submitted and allowed SIU costs. The modelled costs presented in the table below are costs after the application of disallowances and non-regression benchmarking approaches, but before the catch-up efficiency and ongoing efficiency challenges are applied.

Table 31: All GDNs - SIU proposed non-regression cost adjustments for RIIO-GD3 (£m, 23/24 prices)

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
Cadent - EoE	0.0	0.0	0.0	0.0	0%
Cadent - Lon	0.0	0.0	0.0	0.0	0%
Cadent - NW	0.0	0.0	0.0	0.0	0%

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
Cadent - WM	0.0	0.0	0.0	0.0	0%
Cadent - TOTAL	0.0	0.0	0.0	0.0	0%
NGN	0.0	0.0	0.0	0.0	0%
SGN - Sc	45.3	45.3	45.3	0.0	0%
SGN - So	0.0	0.0	0.0	0.0	0%
SGN - TOTAL	45.3	45.3	45.3	0.0	0%
WWU	0.2	0.2	0.2	0.0	0%
GD sector	45.3	45.3	45.3	0.0	0%

Non-regression analysis summary

5.417 Table 32 below summarises our assessment of all non-regression activities and the level of RIIO-GD3 allowances provided. The allowances shown here under 'total adjusted' reflect the outcome of the non-regression analysis process but are before the application of catch-up efficiency and ongoing efficiency.

Table 32: All GDNs - Total proposed non-regression cost adjustments for RIIO-GD3 (£m, 23/24 prices)

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
Cadent - EoE	218.4	183.1	127.9	-35.3	16%
Cadent - Lon	332.4	284.9	195.6	-47.4	14%
Cadent - NW	133.8	110.9	71.0	-22.9	17%
Cadent - WM	91.0	80.2	58.6	-10.9	12%
Cadent - TOTAL	775.6	659.1	453.1	-116.5	15%
NGN	77.0	68.3	99.0	-8.7	11%

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
SGN - Sc	150.4	135.0	88.1	-15.4	10%
SGN - So	449.6	352.4	207.8	-97.2	22%
SGN - TOTAL	600.0	487.4	295.9	-112.6	19%
WWU	124.2	108.7	99.8	-15.5	13%
GD sector	1,576.8	1,323.4	947.8	-253.4	16%

Catch-up efficiency challenge

Background

5.418 The catch-up efficiency challenge is used to set companies allowances, it challenges less efficient GDNs to reach the productivity levels of the more efficient companies. It is set based on our assessment of an efficient benchmark using the distribution of company efficiency scores.

Final Determinations summary

Design	Final Determination	Draft Determination
Efficiency challenge	Glide path from 75th percentile to 85th percentile over three-year period. The 85th percentile will apply to the last two years of RIIO-GD3.	Same as FD
Period of data used to set benchmark	The efficiency benchmark is set based on the distribution of company efficiency scores using total RIIO-GD3 forecast costs.	Same as FD

Final Determinations rationale and Draft Determinations responses

5.419 We are setting the catch-up efficiency challenge at the 85th percentile, with a glide path from the 75th percentile over the first three years of RIIO-GD3. We are using the distribution of companies forecast RIIO-GD3 costs to set the efficiency frontier. This is consistent with the approach we proposed in our Draft Determinations.

Efficiency Challenge

5.420 We are setting the efficiency frontier at the 85th percentile, but are providing a three year glide path from the 75th percentile to the 85th percentile from the start of the price control. All GDNs with efficiencies below the benchmark will be given a totex allowance based on the efficient benchmark. GDNs whose

efficiencies are above the benchmark will be allocated their forecast costs (subject to accounting for pre/post and non-regression adjustments). The benchmarking efficiency adjustment ('catch-up efficiency challenge') will be applied as a post-modelling adjustment to modelled costs (ie the outputs of both the regression and non-regression benchmarking modelling, but not technical or bespoke assessment). This decision is consistent with the approach at RIIO-GD2 and the model proposed in our Draft Determinations.

5.421 NGN supported maintaining a similar level of catch-up efficiency challenge as applied at RIIO-GD2. Cadent and WWU were broadly supportive of the concept of applying a catch-up efficiency challenge, but raised concerns over the level of the challenge given perceived issues with the underlying modelling. We have continued to improve the consistency of data reporting and our modelling approach for RIIO-GD3 and the results of the regression model continue to show good statistical performance. We think it important to maintain a strong efficiency challenge to drive value for consumers, and consider that applying this at the 85th percentile with a 3-year glidepath represents a stretching but achievable level of efficiency in RIIO-GD3.

5.422 We note that the range of efficiency scores between GDNs have narrowed in our FD model compared to our DD model. The two networks ranked 2nd and 3rd have efficiency scores that are very close (only different at the third decimal place) and that are effectively at the efficiency benchmark (85th percentile), meaning they face no material catch-up efficiency challenge. The narrowing of the range also means the overall size of the catch-up efficiency challenge for those networks lagging the benchmark is proportionally smaller, relative to our Draft Determination model.

5.423 The range of efficiency scores is an important supplementary indicator of model quality. A large range of efficiency scores could indicate the presence of issues in the underlying model, such as the presence of omitted variables. Our narrower range compared to Draft Determinations suggests our model is better able to capture the characteristics of the GDNs that have material impacts on costs, leading to a lower distribution of efficiency scores. We consider this, combined with strong statistical performance, supports applying a stretching efficiency benchmark in our Final Determinations.

Use of forecast costs

5.424 We are setting the catch-up efficiency challenge based on the distribution of companies forecast RIIO-GD3 costs. This decision is consistent with the approach at RIIO-GD2 and the model presented in our Draft Determinations.

5.425 We consulted upon using the distribution of both historic and forecast costs to define the efficiency frontier. Cadent and NPg were against using historic data to set the efficiency challenge, with NGN, WWU and NGED recognising historical data could have a role in the performance calculation with each providing different perspectives on the potential approach. We have decided not to introduce historic data to set the efficiency challenge for RIIO-GD3 as we recognise that this is has a relatively significant impact on model outcomes and there are a number of different ways that this could be implemented. We therefore believe that introducing this change required further time and consultation to develop the approach. However, we believe the use of historic data in setting the efficiency challenge is something that deserves further consideration for future price controls.

Technically assessed costs

5.426 We use the term technical assessment to refer to the assessment of costs associated with projects or areas of work which are bespoke in nature and therefore are not suitable for benchmarking.

5.427 Bespoke outputs are technically assessed costs relating to a specific GDN or certain networks that have a specific licence condition attached (eg PCD). See the company annexes for further details on our proposed bespoke outputs for RIIO-GD3. In this section, we have separated out bespoke outputs from technically assessed costs for clarity. In practice, the assessment approaches used to determine efficient costs are similar across the two categories.

5.428 This section sets out details of our reviews of the various areas we have assessed through technical and bespoke assessment in our Final Determinations. Our rationale for why we have chosen to technically assess these areas in our Final Determinations is set out in the Exclusions section above.

5.429 Where we have technically assessed costs activities that are common across all or multiple GDNs, we have set out the decision, approach and rationale in this section. Where we have assessed cost activities that are specific to individual companies (eg bespoke outputs), with the detailed decision, approach and rationale is located in the relevant company annexes, with a high level summary included in this section.

5.430 Some projects have been reclassified between technically assessed and bespoke output since our Draft Determinations. We have covered them in the section that aligns with our decision in our Final Determinations, and explained any changes to our assessment as part of the supporting rationale.

Technically assessed projects and cost activities summary

5.431 In this section we cover our decisions on each of the technically assessed areas. Where the costs are specific to individual companies, we have provided a summary of our proposals, with further details set out in the relevant company annexes. These also include our rationale for areas proposed for technical assessment by the GDNs that we have decided not to technically assess, either historically or for RIIO-GD3. Table 33 below summarises the costs we have allowed for technically assessed activities in RIIO-GD3.

5.432 The modelled costs presented in the table below include any adjustments resulting from the technical assessment process, but do not include the ongoing efficiency challenge.

Table 33: Summary of submitted and allowed technically assessed costs (£m, 2023/24 prices)

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
Cadent - EoE	184.8	122.4	89.0	-62.4	-34%
Cadent - Lon	137.5	75.0	30.0	-62.5	-45%
Cadent - NW	122.8	75.7	38.7	-47.1	-38%
Cadent - WM	97.3	65.3	28.2	-32.0	-33%
Cadent - TOTAL	542.4	338.5	185.9	-203.9	-38%
NGN	37.0	38.5	24.1	1.5	4%
SGN - Sc	79.5	70.2	55.9	-9.3	-12%
SGN - So	175.2	145.7	105.3	-29.4	-17%
SGN - TOTAL	254.7	215.9	161.2	-38.8	-15%
WWU	190.3	112.1	58.5	-78.2	-41%

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
GD Sector	1,024.3	705.0	429.7	-319.4	-31%

Cyber

Background

5.433 There is a necessity for ongoing investment to ensure companies' networks and information systems are adequately protected to detect and prevent cyber-attacks. All network companies are also required to be compliant with the Network and Information Systems Regulations 2018 (NIS Regulations).

5.434 Our approach to cyber resilience and our review of companies' Draft Determinations responses is set out in Chapter 11 of the Overview Document.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost activities assessed	Cyber resilience opex and capex costs.	Same as FD.
Assessment Approach	Expert technical review of needs case and cost forecasts.	Same as FD.
RIIO-GD3 costs allowed	Allowed [REDACTION].	Change - Allowed [REDACTION].

Final Determination rationale and Draft Determination responses

5.435 We undertook specialist review of cyber costs led by technical experts. This review directly informed the final cost reductions. Due to the sensitive nature of the area, we have shared final allowances directly with the companies.

5.436 The modelled costs presented in Table 34 below include any adjustments resulting from the technical assessment process, but do not include the ongoing efficiency challenge.

Table 34: Summary of submitted and allowed cyber costs (£m, 2023/24 prices)

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
Cadent - EoE	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]
Cadent - Lon	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]
Cadent - NW	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]
Cadent - WM	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]
Cadent - TOTAL	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]
NGN	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]
SGN - Sc	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]
SGN - So	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]
SGN - TOTAL	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]
WWU	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]
GD Sector	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]

Advanced Leakage Detection (ALD)

Background

5.437 ALD relates to costs associated with adopting and operating new approaches to proactively detect leaks on the GDNs' networks. This is a new area of baseline costs for RIIO-GD3. In our Draft Determinations, we proposed to allow these costs in baseline allowances, but to assess them through technical assessment due to uncertainty around the level of comparability between companies, given the different levels of experience with ALD to date.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost activities assessed	ALD capex.	Same as FD.
Assessment Approach	Technical assessment of historical and forecast gross costs.	Same as FD.
RIIO-GD3 costs allowed	£51.9m.	Same as FD.

Final Determinations rationale and Draft Determinations responses

5.438 We have decided to allow £51.9m in baseline allowance funding for ALD in our Final Determinations, which retains the position set out in our Draft Determinations.

5.439 NGN, WWU and Cadent supported the inclusion of ALD in the baseline funding for RIIO-GD3. Cadent has resubmitted costs following an update to its assumptions on the number detection unit technologies[96] it proposed to procure in RIIO-GD3. We have disallowed £3.7m of the resubmitted costs on the basis of insufficient value for money justification. Further details on the rationale for this rejection are included in paragraph 3.12.

5.440 SGN supported the decision to fund ALD through baseline allowances, however noted that it is important that all networks are funded for comparable levels of work. It noted that it should be made clear whether PE and metallic mains should be surveyed or just metallic mains.

5.441 The modelled costs presented in the table below include any adjustments resulting from the technical assessment process, but do not include the ongoing efficiency challenge.

Table 35: Summary of submitted and allowed ALD costs (£m, 2023/24 prices)

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
Cadent - EoE	18.6	13.5	13.5	-5.1	-27%

[96] Vehicle mounted sensors, fixed sensors and handheld sensors.

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
Cadent - Lon	7.7	2.6	2.6	-5.1	-66%
Cadent - NW	12.3	7.2	7.2	-5.1	-42%
Cadent - WM	9.3	4.3	4.3	-5.0	-54%
Cadent - TOTAL	47.8	27.5	27.5	-20.3	-42%
NGN	4.9	4.9	4.9	0.0	0%
SGN - Sc	3.7	3.7	3.7	0.0	0%
SGN - So	8.7	8.7	8.7	0.0	0%
SGN - TOTAL	12.4	12.4	12.4	0.0	0%
WWU	7.1	7.1	7.1	0.0	0%
GD Sector	72.2	51.9	51.9	-20.3	-28%

Digital Platform for Leakage Analytics (DPLA)

Background

5.442 DPLA includes costs associated with developing, adopting, implementing and using a new data-driven model for identifying leaks on the GDNs' networks. This is a new area of baseline costs for RIIO-GD3, with DPLA funding in RIIO-GD2 provided through the Strategic Innovation Fund (SIF). In our Draft Determinations, we proposed to allow baseline funding for Cadent, recognising it has greater certainty on costs and timelines for implementation than other GDNs due to the SIF-funded development it has undertaken in RIIO-GD2.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost activities assessed	Costs for testing, developing and adopting the DPLA.	Same as FD.
Assessment Approach	Technical assessment of historical and forecast gross costs.	Same as FD.
RIIO-GD3 baseline costs allowed	£5.1m for Cadent. No ex ante allowances provided for other networks.	Same as FD.
In-period funding	In-period DPLA funding can be accessed through the DPD UIOLI or the SDP Re-opener.	Same as FD.

Final Determinations rationale and Draft Determinations responses

5.443 In line with our Draft Determinations, we have decided to assess the costs associated with the DPLA through the technical assessment channel.

5.444 Cadent supported the proposed baseline funding and welcomed the support we have given the DPLA. Cadent's submitted £5.1m of costs relating to the DPLA were allowed within the technical assessment channel. NGN, SGN and WWU will be able to submit applications for funding through either the DPD UIOLI or the SDP Re-opener.

5.445 Both SGN and WWU agreed with the decision to technically assess the DPLA costs. NGN did not comment specifically on the decision to separately assess the DPLA.

5.446 The modelled costs presented in the table below include any adjustments resulting from the technical assessment process, but do not include the ongoing efficiency challenge.

Table 36: Summary of submitted and allowed DPLA costs (£m, 2023/24 prices)

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
Cadent - EoE	1.5	1.5	1.5	0.0	0%
Cadent - Lon	0.7	0.7	0.7	0.0	0%
Cadent - NW	1.5	1.5	1.5	0.0	0%

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
Cadent - WM	1.5	1.5	1.5	0.0	0%
Cadent - TOTAL	5.1	5.1	5.1	0.0	0%
NGN	0.0	0.0	0.0	0.0	0%
SGN - Sc	0.0	0.0	0.0	0.0	0%
SGN - So	0.0	0.0	0.0	0.0	0%
SGN - TOTAL	0.0	0.0	0.0	0.0	0%
WWU	0.0	0.0	0.0	0.0	0%
GD Sector	5.1	5.1	5.1	0.0	0%

Large rechargeable Local Transmission System (LTS) diversions

Background

5.447 LTS diversions occur when sections of the LTS network need to be rerouted. This work is often driven by requests from third parties, and under certain circumstances the costs associated with completing the work can be recharged to those parties.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost activities assessed	Gross costs for LTS diversions projects which exceed £5m in value (submitted costs).	Same as FD.
Assessment approach	Technical assessment of historical and forecast gross costs.	Same as FD.
RIIO-GD3 costs allowed	£5.5m for Southern (SGN); £19.5m for WWU.	Same as FD.

Final Determinations rationale and Draft Determinations responses

5.448 In our Draft Determinations, we proposed to maintain the removal of gross costs for large rechargeable LTS diversions gross costs from the regression in RIIO-GD3. In response, SGN and WWU were supportive of our approach to technically assess any LTS projects in excess of £5m. Cadent also outlined its rationale for

why removing gross costs for all rechargeable LTS diversions from the totex regression is the most appropriate approach.

5.449 For Final Determinations, we think this approach is consistent with our overall approach to only remove larger, bespoke projects for technical assessment and keeping as many costs as possible within the regression. We note that the Competition and Markets Authority (CMA) agreed with this aspect of our approach during the RIIO-GD2 appeals.

5.450 The modelled costs presented in Table 37 below include any adjustments resulting from the technical assessment process, but do not include the ongoing efficiency challenge.

Table 37: Summary of submitted and allowed Large Rechargeable LTS Diversions costs (£m, 2023/24 prices)

Network Company	**Total submitted (£m)**	**FD modelled (£m)**	**DD modelled (£m)**	**Difference FD modelled vs submitted (£m)**	**Difference FD modelled vs submitted (%)**
Cadent - EoE	0.0	0.0	0.0	0.0	0%
Cadent - Lon	0.0	0.0	0.0	0.0	0%
Cadent - NW	0.0	0.0	0.0	0.0	0%
Cadent - WM	0.0	0.0	0.0	0.0	0%
Cadent - TOTAL	0.0	0.0	0.0	0.0	0%
NGN	0.0	0.0	0.0	0.0	0%
SGN - Sc	0.0	0.0	0.0	0.0	0%
SGN - So	5.5	5.5	5.5	0.0	0%
SGN - TOTAL	5.5	5.5	5.5	0.0	0%
WWU	19.5	19.5	19.5	0.0	0%
GD Sector	25.0	25.0	25.0	0.0	0%

Tier 1 iron stubs

Background

5.451 Iron stubs are short sections of Tier 1 iron mains connecting to larger diameter parent mains, that were left in-situ during previous phases of the mains replacement programme (prior to the IMRRP). As qualifying Tier 1 mains, they are required to be decommissioned by 2032, under the IMRRP. We accept the need for this work to be undertaken during RIIO-GD3, in line with timely completion of the IMRRP.

5.452 All of the GDNs submitted proposed costs and workloads for Tier 1 iron stubs in RIIO-GD3. In our Draft Determinations, we noted concerns about the consistency and comparability of the requested unit costs for undertaking remedial work on iron stubs. While noting that we accepted the needs case for the workloads, we did not propose allowances for Tier 1 iron stubs in our Draft Determinations, due to the challenges with data robustness. We have since undertaken further work with the GDNs through working groups and requested further information through SQs to inform our Final Determinations decision.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost activities assessed	Identifying, investigating and replacing Tier 1 iron stubs.	Same as FD.
Assessment approach	Technical cost assessment, applying unit cost efficiency challenge .	Change - Needs case accepted but no allowance calculated due to data inconsistencies.
RIIO-GD3 costs allowed	Allowed £84.8m in total. Partial disallowances made to Cadent, SGN and WWU.	Change - No allowance set.

Final Determinations rationale and Draft Determinations responses

5.453 We have decided to set overall stubs allowances for each GDN based on our view of efficient unit costs for each network and each activity, multiplying through by the workloads for each activity. We consider it important to apply an efficiency challenge to the costs submitted by the GDNs for Tier 1 iron stubs, given the high degree of cost uncertainty in some GDNs' estimates and the range of unit costs submitted for comparable activities.

5.454 We have decided to set separate unit costs for 'stub decommissioned' and 'stub not found'. We have applied an efficiency benchmark approach to determine efficient costs for each network. We applied the following methodology:

- Firstly, we removed back-office overhead costs for Tier 1 iron stubs, and assessed these through the regression, consistent with our assessment for overhead costs for the rest of the repex programme.
- For each unit cost category, we normalised costs by removing costs that are driven by the geographical area(s) GDNs operate in and for which they have no control over. These regional factors cover labour costs and sparsity and urbanity effects.
- We then created efficiency scores by dividing GDNs' normalised unit costs by the industry average unit cost. We took the 85th percentile of the efficiency scores and scaled normalised submitted unit costs relative to this benchmark, to determine an efficient level of cost for each network.
- We allowed either the lower of our view of efficient costs or the company submitted costs.
- We multiplied our view of efficient unit costs by volumes for each category and reversed our regional factor adjustments to determine the final allowance.

5.455 We consider this approach results in better alignment of unit costs between GDNs relative to submitted costs, while ensuring adequate funding to deliver safety-driven work during RIIO-GD3.

5.456 SGN supported the technical assessment of Tier 1 iron stubs, but favoured scale ratio analysis using a common driver (eg metallic length) to determine efficient unit costs over a simple average unit rate approach. NGN suggested that benchmarking unit rates between GDNs would be a reasonable approach providing there was consistency in assumptions across the GDNs. Cadent proposed separate categories for remediation, stub being left in situ and stub not found. It argued for a small allowance adjustment mechanism to allow over-delivery. WWU supported funding through a PCD but proposed removing the cap on volumes.

5.457 Our approach to determining efficient unit costs utilises company submitted data, while normalising for identified differences in reporting. We worked with the GDNs following our Draft Determinations to better understand the underlying assumptions informing their submitted costs, given the wider variation in cost estimates contained in their business plans. We have removed overhead costs associated with Tier 1 iron stubs to ensure that unit costs within the PCD are set on a like-for-like basis. These overhead costs, which have a greater fixed cost component, have been funded through the totex regression. Much of the

remaining variation was explained as being driven by the different approaches taken by each GDN to identifying, inspecting and remediating stubs. We think applying an efficiency challenge to these unit costs is justified, to encourage those companies with higher costs to undertake the work efficiently and cost effectively.

5.458 We have maintained our approach to setting unit costs for two categories, stubs decommissioned and stub not found. We did not consider the dataset consistent or robust enough to support setting unit costs at further levels of disaggregation.

5.459 Allowed costs for total Tier 1 iron stubs for each network are set out in Table 38 below. The modelled costs presented in the table below include any adjustments resulting from the technical assessment process, but do not include the ongoing efficiency challenge.

Table 38: Tier 1 stubs costs submitted and allowanced by network for RIIO-GD3 (£m, 2023/24 prices)

Network Company	**Total submitted (£m)**	**FD modelled (£m)**	**DD modelled (£m)**	**Difference FD modelled vs submitted (£m)**	**Difference FD modelled vs submitted (%)**
Cadent - EoE	9.7	8.4	0.0	-1.3	-13%
Cadent - Lon	15.1	13.3	0.0	-1.8	-12%
Cadent - NW	13.1	13.1	0.0	0.0	0%
Cadent - WM	14.9	14.9	0.0	0.0	0%
Cadent - TOTAL	52.7	49.6	0.0	-3.1	-6%
NGN	3.6	3.6	0.0	0.0	0%
SGN - Sc	1.9	1.8	0.0	0.0	-2%
SGN - So	13.0	8.7	0.0	-4.3	-33%
SGN - TOTAL	14.9	10.5	0.0	-4.4	-29%
WWU	30.4	20.7	0.0	-9.7	-32%
GD Sector	101.6	84.4	0.0	-17.2	-17%

PSUP capex

Background

5.460 GDNs own assets and sites that are designated as Critical National Infrastructure (CNI). The Secretary of State has initiated the Physical Security Upgrade Programme (PSUP), a DESNZ mandated national programme to enhance physical security at CNI sites. The level of security at each site and the type of solution required is determined through the PSUP.

5.461 In our Draft Determinations, we removed all of Cadent's submitted baseline costs for physical security capex following our engineering review, as we did not have sufficient information on asset health and the need for intervention. We proposed to fund WWU and SGN in line with the costs requested. NGN did not request any funding for physical security in RIIO-GD3.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost activities assessed	Capex costs for physical security investments made under the PSUP.	Same as FD.
Assessment approach	Technical assessment of historical and forecast gross costs.	Same as FD.
RIIO-GD3 costs allowed	Allowed [REDACTION] in total.	Change - Allowed [REDACTION] in total.

Final Determinations rationale and Draft Determinations responses

5.462 We have decided to approve [REDACTION] of Cadent's [REDACTION] request for PSUP in our Final Determinations, and allow in-period funding as part of the Mandated Category 3 Security PCD condition (see the Cadent Annex for more information). We have maintained our Draft Determination position of allowing [REDACTION] for WWU and [REDACTION] for SGN. As in our Draft Determinations, NGN has not requested any funding for physical security in RIIO-GD3.

5.463 Cadent disagreed with our assessment of its PSUP capex in our Draft Determinations, where we concluded that the proposals were not sufficiently justified. In its consultation response, Cadent provided the additional information requested by our engineering team and resubmitted evidence on design, scope and costing information. Following our engineering assessment, we have decided to allow ex ante funding to upgrade and refresh works on three specified CNI

Category 3 security sites in our Final Determinations. We have applied a maximum contingency of 10% across these sites. This includes [REDACTION] covered by the Mandated Category 3 Security PCD Costs for the sites where we have not allowed ex ante funding. Our engineering review found there remains uncertainty over the preferred option at these sites, making re-opener funding the preferred option.

5.464 The discrete nature of these investments limits our ability to model costs and benchmark through direct comparison. In response to our Draft Determinations, GDNs supported the continued evaluation of physical security capex costs through technical assessment.

5.465 The modelled costs presented in Table 39 below include any adjustments resulting from the technical assessment process, but do not include the ongoing efficiency challenge.

Table 39: PSUP Capex costs submitted and allowanced by network for RIIO-GD3 (£m, 2023/24 prices)

Network Company	**Total submitted (£m)**	**FD modelled (£m)**	**DD modelled (£m)**	**Difference FD modelled vs submitted (£m)**	**Difference FD modelled vs submitted (%)**
Cadent - EoE	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]
Cadent - Lon	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]
Cadent - NW	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]
Cadent - WM	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]
Cadent - TOTAL	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]
NGN	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]
SGN - Sc	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]
SGN - So	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]
SGN - TOTAL	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
WWU	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]
GD Sector	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]	[REDACTION]

Major projects

Background

5.466 There are a number of larger capex and repex projects the GDNs are planning to complete in RIIO-GD3. Where we consider these projects to be sufficiently distinct from the more routine capex and repex investments they typically deliver - due to materiality, complexity and/or their bespoke nature - we have assessed them through technical assessment. In our Draft Determinations, we assessed six discrete capital investment projects under this route, covering £107.9m across all GDNs. We proposed to allow £88.4m, with reductions of £19.5m, based on our review of the needs case and cost justification.

5.467 In this section, we provide a high-level summary overview of the decisions on major projects in our Final Determinations. See the company annexes for further details on specific projects.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost activities assessed	Large bespoke capex and repex projects.	Same as FD.
Assessment approach	Technical assessment of gross cost forecasts.	Not applicable.
RIIO-GD3 costs allowed	£11.2m for Cadent (East of England). £4.7m for SGN (Southern).	Change - No funding allowed as the needs cases were not considered justified.

Final Determinations rationale and Draft Determinations responses

5.468 We have decided to technically assess the following major projects in our Final Determinations, with the network indicated in brackets:

- West Winch (Cadent East of England); and
- Cams Hall (SGN Southern).

5.469 See the relevant company annexes for further details on our decision, assessment and rationale for each project.

5.470 In our Draft Determinations, we assessed a number of bespoke projects under technical assessment. We have reclassified four of these projects as bespoke outputs, to align with our decisions on implementing bespoke PCDs.[97] See the Bespoke Outputs section below, and Chapter 2 of the Cadent and SGN Annexes for more information.

5.471 We have not technically assessed any discrete capex or repex projects through technical assessment for WWU or NGN, as they did not submit any.

5.472 The modelled costs presented in Table 40 below include any adjustments resulting from the technical assessment process, but do not include the ongoing efficiency challenge.

[97] Full site and system rebuilds; Glenmavis; Welling PRS; and the Tinsley Viaduct Diversion.

Table 40: Major Projects costs submitted and allowanced by network for RIIO-GD3 (£m, 2023/24 prices)

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
Cadent - EoE	11.3	11.2	0.0	-0.1	-1%
Cadent - Lon	0.0	0.0	0.0	0.0	0%
Cadent - NW	0.0	0.0	0.0	0.0	0%
Cadent - WM	0.0	0.0	0.0	0.0	0%
Cadent - TOTAL	11.3	11.2	0.0	-0.1	-1%
NGN	0.0	0.0	0.0	0.0	0%
SGN - Sc	0.0	0.0	0.0	0.0	0%
SGN - So	6.0	4.7	0.0	-1.3	-22%
SGN - TOTAL	6.0	4.7	0.0	-1.3	-22%
WWU	0.0	0.0	0.0	0.0	0%
GD Sector	17.4	15.9	0.0	-1.4	-8%

Electric vehicles

Background

5.473 To help reduce carbon emissions associated with operational transport, we are allowing funding to facilitate the rollout of Zero Emission Vehicles (ZEVs) and associated Electric Vehicle (EV) charging infrastructure during RIIO-GD3. This will contribute towards network company BCF targets and the continued modernisation of vehicle fleets.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost activities assessed	Costs for purchasing ZEVs and associated EV charging infrastructure.	Same as FD.

Design	Final Determination	Draft Determination
Assessment approach	Technical assessment of gross historical and forecast costs, applied Ofgem view of efficient unit costs per vehicle type using best in class approach.	Change - Assessed within the totex regression, no allowances included in PCD proposal.
RIIO-GD3 costs allowed	Allowed £30.5m in total. Partial disallowances for Cadent, SGN and WWU.	Change – N/A as part of totex regression.

Final Determinations rationale and Draft Determinations responses

5.474 We have decided to allow a total of £30.5m to support the decarbonisation of the GDNs' fleets in RIIO-GD3. We have assessed these costs through technical assessment because we did not consider assessment using regression to be robust, given the lack of consistency in data submissions between the GDNs. Differences in vehicle types, weights, models, and procurement methods (leasing versus purchasing) meant regression assessment was not suitable for comparing costs and setting efficient allowances. Technically assessing EV costs also enables greater transparency in tracking EV expenditure over RIIO-GD3. This is particularly important given ongoing market uncertainty, rising costs, and the delivery challenges faced by GDNs in RIIO-GD2.[98]

5.475 Following the request for additional data in our Draft Determinations, each network company resubmitted revised figures: £43.9m (Cadent), £5.0m (NGN), £9.3m (SGN), and £0.9m (WWU). Using the resubmitted data and applying our view of an efficient, common set of unit rates under the Operational Transport Emissions Reduction PCD, we have proposed to reduce the allowances to £15.9m for Cadent and £0.3m for WWU, while accepting NGN's funding in full, and the majority of SGN's. All costs have been assessed through technical assessment as part of the Operational Transport Emissions Reduction PCD (refer to Chapter 4 of the Overview Document for further information).

5.476 We have decided to base each GDN's allowance on a common set of unit costs for each vehicle type and ownership structure. We determined efficient unit costs based on a 'best in class' approach, using the lowest set of unit costs submitted across the GD and ET network companies for each vehicle type. We did this for both ZEVs and Internal Combustion Engine (ICE) vehicles. We supplemented this

[98] See p. 36-40 of our RIIO-3 Draft Determinations Overview Document Draft-Determinations-Overview-Document.pdf

data with unit costs derived from market search where we did not have an equivalent ICE unit cost within the resubmitted data. Using these unit costs, we then calculated the incremental cost difference between an ICE vehicle and a ZEV (see Chapter 4 of the Overview Document for further information). Finally, we calculated total allowances for each network by multiplying our view of efficient unit costs by their proposed volumes.

5.477 In our Draft Determinations, we proposed that baseline cost allowances would be set for each network company based on specific volumes and common unit costs. However, following our review of business plan submissions, we identified data quality issues and felt there was insufficient information to establish a common set of unit rates for the Operational Transport Emissions Reduction PCD. We asked all network companies to submit additional information as part of their responses to Draft Determinations.

5.478 Cadent stated in its consultation response that there is no justification for removing costs associated with ZEVs from the regression analysis, as these costs do not meet our stated criteria for exclusion. However, we disagree with this for the reasons outlined above. WWU and NGN stated in their business plans that they support the use of technical assessment for ZEVs. Additionally, SGN and WWU broadly supported the proposal to introduce a new common mechanistic PCD for ZEVs in their Draft Determination responses, along with establishing a common incremental cost relative to an ICE vehicle.

5.479 In their consultation responses, all GDNs provided forecast costs and volumes for at least one type of EV. However, the quality and consistency of the data varied among companies. Overall, there was little alignment across vehicle categories, and some submissions included large outliers in unit costs. While some data and commentary were of good quality, most categories had small sample sizes and variable unit costs. Therefore, we used a 'best in class' approach, because we expect the cost of vehicles to be broadly comparable across the country, so think it is reasonable to use the lowest available figures for each category to ensure a fair deal for consumers. This prevents unnecessary overspend and reduces the risk of consumers paying for inefficiencies.

5.480 The modelled costs presented in Table 41 below include any adjustments resulting from the technical assessment process, but do not include the ongoing efficiency challenge.

Table 41: Electric Vehicles costs submitted and allowanced by network for RIIO-GD3 (£m, 2023/24 prices)

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
Cadent - EoE	26.9	5.2	0.0	-21.7	-81%
Cadent - Lon	20.7	4.0	0.0	-16.7	-81%
Cadent - NW	22.5	4.3	0.0	-18.2	-81%
Cadent - WM	12.5	2.4	0.0	-10.1	-81%
Cadent - TOTAL	82.6	15.9	0.0	-66.7	-81%
NGN	3.1	5.0	0.0	2.0	64%
SGN - Sc	4.4	3.7	0.0	-0.7	-15%
SGN - So	6.6	5.6	0.0	-1.0	-15%
SGN - TOTAL	11.0	0.0	0.0	0.0	-100%
WWU	11.1	0.3	0.0	-10.8	-97%
GD Sector	107.8	30.5	0.0	-77.3	-72%

Robotic intervention

Background

5.481 Robotic intervention techniques (eg CISBOT) involve the use of remotely controlled robots to repair and upgrade gas pipes within the network. The process works by navigating inside gas mains and sealing joints in natural gas pipelines with a specialist sealant solution.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost activities assessed	Costs for utilising robotic technologies to refurbish gas mains as part of GDNs repex programmes.	Same as FD.
Assessment approach	Technical assessment of gross historical and forecast costs.	Change - Assessed within the totex regression
RIIO-GD3 costs allowed	Allowed £27.2m of costs for Cadent's networks. Other networks did not submit costs for this activity.	Change - Assessed within the totex regression, no activity level allowances split out

Final Determinations rationale and Draft Determinations responses

5.482 We have decided to allow Cadent's submitted costs of £27.2m for robotic intervention in full for RIIO-GD3. We have decided to assess these costs through technical assessment because following review of the additional evidence put forward by Cadent in its consultation response, we now consider robotic intervention does meet the criteria for separate assessment. The activity is specific to a single company (Cadent) in RIIO-GD3, there is a limited dataset on which to incorporate it into the cost driver for comparative benchmarking, and the outcome of jobs completed with robotic intervention is not directly comparable with full replacement of a gas main.

5.483 Cadent was the only GDN to include forecasted costs for robotic intervention in RIIO-GD3, reflecting an anticipated increase in Tier 2B and Tier 3 work, which are more suited to robotic techniques. SGN indicated that it has not used robotic intervention since RIIO-GD1 due to increasing costs, reduced effectiveness, and the anticipated withdrawal of contractor partners. WWU stated that using robotic intervention is not suitable for its asset base but acknowledged potential benefits in major cities with the appropriate infrastructure.

5.484 In our Draft Determinations, we rejected Cadent’s proposal for excluding robotic intervention from comparative benchmarking and included it in the regression. In response to our Draft Determinations, Cadent raised concerns that excluding robotic intervention costs from the regression without adjusting the repex synthetic cost driver to reflect associated volumes would penalise networks that use this technique. Cadent proposed either excluding robotic intervention costs from the benchmarking regression or adjusting the repex synthetic cost driver to incorporate robotic intervention volumes.

5.485 We explored both of these options but found there to be a limited dataset available on which to robustly incorporate robotic intervention into the repex cost driver, particularly given the overall materiality of the spend. Furthermore, Cadent's use of robotic intervention is highly specific to its network and operational context, particularly in its London network. The technique provides a practical solution to extend the life of assets prone to leakage in dense urban areas, where it can minimise disruption relative to conventional methods.

5.486 We will closely monitor costs for robotic intervention in RIIO-GD3. We consider robotic intervention is an important part of the toolkit for ongoing maintenance and refurbishment of the network, particularly once the Tier 1 mains replacement programme concludes in 2032. We want to work with the GDNs to understand the potential role that robotic intervention can play going forward, particularly as new leakage detection technologies (ie ALD, DPLA) are rolled out across GB during RIIO-GD3. See paragraphs 3.87-3.89 for more information on our approach to repex beyond RIIO-GD3.

5.487 The modelled costs presented in Table 42 below include any adjustments resulting from the technical assessment process, but do not include the ongoing efficiency challenge.

Table 42: Robotic Intervention costs submitted and allowanced by network for RIIO-GD3 (£m, 2023/24 prices)

Network Company	**Total submitted (£m)**	**FD modelled (£m)**	**DD modelled (£m)**	**Difference FD modelled vs submitted (£m)**	**Difference FD modelled vs submitted (%)**
Cadent - EoE	7.6	7.6	0.0	0.0	0%
Cadent - Lon	14.6	14.6	0.0	0.0	0%
Cadent - NW	1.7	1.7	0.0	0.0	0%
Cadent - WM	3.8	3.8	0.0	0.0	0%
Cadent - TOTAL	27.7	27.7	0.0	0.0	0%
NGN	0.0	0.0	0.0	0.0	0%
SGN - Sc	0.0	0.0	0.0	0.0	0%
SGN - So	0.0	0.0	0.0	0.0	0%

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
SGN - TOTAL	0.0	0.0	0.0	0.0	0%
WWU	0.0	0.0	0.0	0.0	0%
GD Sector	27.7	27.7	0.0	0.0	0%

GSIUR disconnections

Background

5.488 GSIUR disconnections refer to the costs associated with the disconnections mandated for completion by the Gas Safety (Installation and Use) Regulations 1998. GDNs have a legal responsibility to ensure that any disconnection of gas appliances or properties complies with the GSIUR. As such, they must ensure the safe disconnection of appliances from the gas supply.

5.489 Historical GSIUR disconnection workloads have been relatively stable, however recent trends indicate an upward trajectory though the extent of this increase throughout RIIO-GD3 is uncertain. This has created uncertainty in the workloads and costs throughout RIIO-GD3.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost activities assessed	Costs for delivering mandated disconnections.	Same as FD.
Assessment approach	Technical cost assessment, applying unit cost efficiency challenge.	Change - No baseline costs submitted.
RIIO-GD3 costs allowed	Allowed £46.1m in total. Partial disallowances for all GDNs.	Change - No baseline costs allowed.

Final Determinations rationale and Draft Determinations responses

5.490 We have decided to technically assess the GSIUR disconnections to reflect the inherent uncertainty on the volumes of these disconnections throughout RIIO-GD3. The uncertainty in workloads, unit costs and cost drivers mean that it is not suitable to benchmark companies within the regression.

5.491 We have decided to apply the ex ante unit costs used in the volume driver to reach an efficient ex ante cost allowance for the submitted workloads. Disallowed

costs reflect differences between our view of efficient unit costs and those submitted by the GDNs. The process of setting the ex ante unit costs is described in detail within the Safety Disconnection Volume Driver section, paragraphs 4.81-4.86.

5.492 The modelled costs presented in Table 43 below include any adjustments resulting from the technical assessment process, but do not include the ongoing efficiency challenge.

Table 43: GSIUR disconnections submitted and allowed costs for RIIO-GD3 (£m, 2023/24 prices)

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
Cadent - EoE	41.3	11.5	0.0	-29.7	-72%
Cadent - Lon	24.0	5.3	0.0	-18.7	-78%
Cadent - NW	28.7	8.3	0.0	-20.4	-71%
Cadent - WM	18.3	4.2	0.0	-14.1	-77%
Cadent - TOTAL	112.2	29.2	0.0	-83.0	-74%
NGN	4.6	5.7	0.0	1.1	25%
SGN - Sc	2.5	1.2	0.0	-1.3	-51%
SGN - So	14.4	5.0	0.0	-9.4	-65%
SGN - TOTAL	16.9	6.2	0.0	-10.7	-63%
WWU	12.1	4.9	0.0	-7.1	-59%
GD Sector	145.7	46.1	0.0	-99.6	-68%

Intermediate pressure and medium pressure steel services

Background

5.493 In its business plan, SGN proposed to continue a service replacement programme to address services attached directly to medium and intermediate pressure mains, which do not have a natural driver for replacement through the IMRRP. This requires reconfiguring the network to ensure safe operation of these

services, given the pressure tiers of the connecting mains. This is a continuation of the programme it started in its Scotland network during RIIO-GD2.

5.494 In our Draft Determinations we proposed to allow SGN £2.2m to undertake a replacement of Intermediate Pressure (IP) and the survey costs for Medium Pressure (MP) services as part of a bespoke output. We disallowed costs of £4.1m as a more robust needs case including the associated costing is required for MP steel services and end of network services.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost activities assessed	Costs of replacing services attached to MP and IP mains.	Same as FD.
Assessment approach	Technical cost assessment.	Change - Included in regression.
RIIO-GD3 costs allowed	Allowed £5.7m for SGN. No other networks submitted costs.	Change - Allowed £2.2m for SGN. Same as FD.

Final Determinations rationale and Draft Determinations responses

5.495 We have decided to allow costs of £5.7m in our Final Determinations (£4.7m for Scotland, £1.0m for Southern). We have increased volumes relative to those in our Draft Determinations, supported by additional evidence demonstrating the need for intervention on these assets during RIIO-GD3. This evidence also reflected associated cost and volume adjustments, leading to an overall net cost reduction of £0.6m. Further details on our rationale can be found in Table 37 of the SGN Annex.

5.496 We have decided not to set a bespoke mechanism associated with SGN's programme of IP and MP steel services in our Final Determinations. This is a change to our position in our Draft Determinations. We think there is a sufficient safety imperative to incentivise SGN to deliver these workloads in RIIO-GD3, and the overall value of the programme is below the materiality threshold for PCDs. Given the specialist nature of these costs, we will ensure that progress on delivery can be clearly tracked in the RIIO-GD3 RRP templates.

5.497 The modelled costs presented in Table 44 below include any adjustments resulting from the technical assessment process, but do not include the ongoing efficiency challenge.

Table 44: Intermediate pressure and medium pressure steel services submitted and allowed costs for RIIO-GD3 (£m, 2023/24 prices)

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
Cadent - EoE	0.0	0.0	0.0	0.0	0%
Cadent - Lon	0.0	0.0	0.0	0.0	0%
Cadent - NW	0.0	0.0	0.0	0.0	0%
Cadent - WM	0.0	0.0	0.0	0.0	0%
Cadent - TOTAL	0.0	0.0	0.0	0.0	0%
NGN	0.0	0.0	0.0	0.0	0%
SGN - Sc	5.2	4.7	0.0	-0.5	-0.1
SGN - So	1.2	1.1	0.0	-0.1	-0.1
SGN - TOTAL	6.4	5.7	0.0	-0.6	-0.1
WWU	0.0	0.0	0.0	0.0	0%
GD Sector	6.4	5.7	0.0	-0.6	-0.1

Bespoke outputs

Background

5.498 Bespoke outputs are individual projects or schemes put forward by the GDNs in their business plans which have a specific output attached (e.g. PCD). They are generally unique to a specific GDN or company. From a cost assessment perspective, we assess them in the same way as technically assessed projects, but there is also an additional policy review of the proposed output, with the final funding decision reflecting the outcome of both of these reviews.

Final Determinations summary

Design	Final Determination	Draft Determination
Cost activities assessed	Bespoke capex or repex projects with a specific output.	Same as FD.
Assessment approach	Technical assessment of gross cost forecasts.	Same as FD.

Design	Final Determination	Draft Determination
RIIO-GD3 costs allowed	Allowed £379.3m in total. Partial disallowance for Cadent.	Change - Allowed £115.6m in total.

Final Determinations rationale and Draft Determinations responses

5.499 We have decided to technically assess the following projects as bespoke outputs for RIIO-GD3, with networks indicated in bracket:

- London Medium Pressure (Cadent London);
- Grays Medium Pressure (Cadent London);
- Tinsley Viaduct (Cadent East of England);
- Flow Weighted Average Calorific Value Metering Systems (Cadent, all networks);
- Full Site and System Rebuilds (SGN, all networks), including:
  - Glenmavis (SGN Scotland);
  - Isle of Grain (SGN Southern); and
  - Welling PRS (SGN Southernnetwork);
- South London Mains (SGN Southern);
- WWU.7 - HS007 (WWU);
- WWU.9 - HS009 (WWU); and
- WWU.9 - HS010 (WWU).

5.500 We have decided to apply a maximum contingency allowance of 10% for major projects, to align with our approach in the transmission sectors. We consider this is reasonable given the degree of cost certainty required to support the needs case justifications provided by the GDNs.

5.501 Further details on our decisions, including any adjustments to costs, on each of these projects can be found in the relevant company annexes.

5.502 A summary of the total allowed costs for bespoke outputs for each network is summarised in Table 45 below. Detailed breakdowns of these costs can be found in each of the company annexes.

5.503 The modelled costs presented in Table 45 below include any adjustments resulting from the technical assessment process, but do not include the ongoing efficiency challenge.

Table 45: Assessment of bespoke outputs for RIIO-GD3 (£m, 2023/24 prices)

Network Company	Total submitted (£m)	FD modelled (£m)	DD modelled (£m)	Difference FD modelled vs submitted (£m)	Difference FD modelled vs submitted (%)
Cadent - EoE	52.3	51.8	0.0	-0.5	-1%
Cadent - Lon	123.2	122.7	113.3	-0.5	0%
Cadent - NW	13.7	13.2	0.0	-0.5	-4%
Cadent - WM	9.5	9.0	0.0	-0.5	-5%
Cadent - TOTAL	198.7	196.7	113.3	-2.0	-1%
NGN	0.0	0.0	0.0	0.0	0%
SGN - Sc	26.7	26.7	1.8	0.0	0%
SGN - So	74.9	74.9	0.4	0.0	0%
SGN - TOTAL	101.5	101.5	2.2	0.0	0%
WWU	81.0	81.0	0.0	0.0	0%
GD Sector	381.2	379.2	115.6	-2.0	-1%

Ongoing efficiency challenge

5.504 We apply an ongoing efficiency challenge to all of totex (ie modelled costs plus technical assessment and bespoke assessment costs). This gives our final view of efficient totex.

5.505 We have set the OE challenge at 1.0% per annum for RIIO-GD3. See Chapter 8 of the Overview Document for further details and rationale on our approach to setting OE in RIIO-3.

5.506 All four GDNs proposed that OE should be set at 0.5% per annum in RIIO-GD3. Table 46 below compares our efficient totex allowances for RIIO-GD3 with the GDNs' submitted costs, inclusive of their proposed OE target, and any accepted resubmission since their original business plans were submitted in December 2024.

Table 46: Comparison of GDN submitted costs including their proposed OE target and Ofgem efficient costs for RIIO-GD3 (£m, 2023/24 prices)

GDN	Submitted totex including OE at 0.5% p.a. (£m)	Ofgem efficient totex, including OE at 1.0% p.a. (£m)	Difference submitted vs Ofgem efficient (%)
Cadent - EoE	2,605.7	2,370.0	-9%
Cadent - Lon	2,208.0	1,950.3	-12%
Cadent - NW	1,870.0	1,564.5	-16%
Cadent - WM	1,358.1	1,251.3	-8%
Cadent - Total	8,041.8	7,136.2	-11%
NGN	1,802.2	1,659.8	-8%
SGN - Sc	1,346.9	1,206.5	-10%
SGN - So	3,259.2	2,791.3	-14%
SGN - Total	4,606.1	3,997.8	-13%
WWU	2,156.6	1,779.1	-18%
GD Sector	29,254.6	25,706.9	-12%

Calculation and disaggregation of net allowances

Background

5.507 Our totex model calculates an overall modelled gross totex allowance for each GDN. It is then necessary to calculate an overall net totex allowance, and to disaggregate this net allowance between different cost activities, primarily where there is a specific regulatory mechanism associated with an activity (for example, a PCD or volume driver). This requires applying a ratio (the net:gross ratio) to convert cost allowances from gross to net.

5.508 In our Draft Determinations, we proposed to disaggregate overall modelled net totex allowances by using weights calculated from submitted net costs after removing excluded costs and adjusting for cost reclassifications.

Final Determinations summary

Design	Final Determination	Draft Determination
Basis for allowances	Net totex allowances, including efficiency challenges, excluding RPEs.	Same as FD.

Design	Final Determination	Draft Determination
Approach to converting from net to gross costs	Calculate net-to-gross ratio, taking into account disallowances for non-regression costs.	Change - Calculate net-to-gross ratio pre-disallowances for non-regression costs.
Approach to disaggregating allowances	GDN-specific cost activity weights calculated from submitted net costs, after removing non-regressed costs, exclusions and adjusting for reclassifications.	Same as FD.

Final Determinations rationale and Draft Determinations responses

5.509 We have decided to calculate overall modelled net totex allowances, and to disaggregate these allowances between cost activities, by using network-specific cost activity weights calculated from submitted net costs. Below is a summary of the calculation process we follow to produce modelled net totex allowances and cost activity weights for disaggregation purposes for each network.

(1) *Initial input*: GDN submitted gross costs, split by cost activity,

(2) *Minus* non-regressed costs by cost activity, which equals:

(3) GDN submitted gross costs, split by cost activity (modelled costs only),

(4) *Minus* exclusions from modelled costs (including workload disallowances, costs moved to UMs and normalisation adjustments) by cost activity,

(5) *Minus* reclassifications to modelled costs by cost activity, which equals:

(6) GDN submitted gross costs, split by cost activity (modelled costs, after exclusions and reclassifications),

(7) *Multiplied* by net:gross[99] ratio (calculated at the level of opex, repex and capex, before any exclusions and reclassifications), which equals:

(8) GDN submitted net costs by cost activity (modelled costs, after exclusions and reclassifications).

5.510 GDN-specific net cost activity weights are then calculated as the corresponding percentage share of costs, calculated from the results in the previous bullet point.

[99] The net:gross ratio is used to convert costs from a gross basis, which are used in the totex modelling, to a net basis, on which efficient allowances are set. It accounts for the share of gross costs which are funded through third party 'contributions', and are therefore not paid for by network customers.

5.511 We think that our disaggregation method is consistent with our approach to cost assessment, which is designed such that it calculates efficient modelled costs at the totex level based on the idea of a notionally efficient company, while allowing companies to decide on the most efficient way to allocate totex allowances to deliver their outputs.

5.512 The use of company-specific cost structures to disaggregate the efficient totex allowance reflects the best available information to us on what GDNs consider to be their most efficient cost structure.

5.513 We note the change in our approach with respect to non-regressed costs, relative to the proposed approach in our Draft Determinations (which did not subtract non-regressed costs from gross GDN-submitted costs - step 2 above). We consider that non-regressed costs should be excluded from the data that is used to calculate company-specific cost structures to ensure consistency with the overall modelled totex cost allowance (which excludes non-regressed costs). We think this approach results in more accurate estimates of costs at the activity level than the approach proposed in our Draft Determinations.

5.514 We have also changed the stage at which the net:gross ratio is applied, in response to a proposal by Cadent, which is discussed further below.

5.515 Cadent, NGN and WWU were broadly supportive of our proposed Draft Determinations approach to disaggregation of modelled totex allowances. However, Cadent proposed a change in the way the net:gross ratio is calculated and applied, which it argued would improve accuracy. It suggested that the net:gross ratios should be calculated after removing non-regressed costs, exclusions and reclassifications from gross submitted costs, to ensure consistency with the costs to which they are applied. Cadent pointed out that the approach in our Draft Determinations was to calculate the net:gross ratio directly from GDN submitted gross costs. NGN raised some concerns about naming conventions and data mapping which had caused challenges during RIIO-GD2. WWU suggested additional working groups to ensure the effective implementation of the proposed approach. We have continued to work closely with GDNs through the CAWG to improve the implementation of our cost disaggregation approach.

5.516 We considered Cadent's proposed change to the way net:gross cost ratios are calculated, and agree that its proposed approach would be an improvement on the methodology we proposed in our Draft Determinations. We therefore have decided to implement removing non-regressed costs and accounting for exclusions when calculating the net to gross ratio.

5.517 SGN and NPg disagreed with our choice to use GDN-specific cost structures to disaggregate overall modelled totex allowances and proposed instead that we use the average industry cost structure. Both GDNs argued that our approach creates a disconnect between the way efficient totex allowances are calculated (which is based on the idea of a notionally efficient company and uses industry-average weights in constructing the CSV) and the way in which they are disaggregated. We note that WWU opposed SGN's proposal, arguing that the use of GDN-specific cost structures provides the best match between disaggregated allowances and each GDN's specific operating model. WWU also argued that SGN's proposed approach would reduce the accuracy of disaggregated allowances and complicate annual reporting.

5.518 We do not agree with SGN's claim that our approach creates a disconnect between the way we set efficient totex allowances and the way these allowances are disaggregated. The use of different cost structure assumptions reflects the different objectives of the different stages of the analysis and are consistent with the underlying cost assessment logic. The use of the average industry cost structure in specifying the CSV that is used in the totex regression model is designed to ensure comparability between GDNs when calculating efficient costs (based on the idea of a notional efficient company). It also serves to mitigate the risk of GDNs inflating their own costs. In contrast, the use of GDN-specific cost structures for cost disaggregation reflects GDNs' views on the most efficient allocation of resources (conditional on an efficient level of modelled totex derived from the totex regression model). This approach provides more accurate estimates than would be the case if the industry average cost structure and reflects GDNs' own views on how best to deploy available funding.

Totex Incentive Mechanism (TIM)

Background

5.519 The TIM is designed to ensure that GDNs and consumers appropriately share the risk of overspending and share any cost efficiencies realised during RIIO-GD3. It also acts an incentive on GDNs to deliver cost efficient projects, by exposing them to the impacts of cost overruns.

Final Determinations summary

Design	Final Determination	Draft Determination
Sharing factor	50% for all GDNs	Same as FD

Final Determinations rationale and Draft Determinations responses

5.520 We have decided to apply a 50% TIM sharing factor to all GDNs in RIIO-GD3. We think this results in an appropriate balance of risks between GDNs and customers and retains a strong incentive for GDNs to deliver cost efficient projects. The majority of the activities the GDNs expect to undertake in the RIIO-GD3 are well understood, repeatable and predictable. This means companies should have a strong understanding of their cost base and be well placed to manage delivery and procurement risks. We consider a 50% sharing factor appropriate in these circumstances, as it provides a suitably strong incentive to encourage companies to seek cost efficiencies and limit cost overruns against this backdrop.

5.521 An ISG, a supplier and two DNOs were supportive of our proposed approach to the TIM in our Draft Determinations. Cadent and WWU were broadly supportive of applying a 50% TIM sharing factor, subject to correcting modelling issues and there being an appropriate balance of overall risk and reward across the whole RIIO-GD3 package. SGN suggested the proposed approach to TIM could work as intended, providing corrections and methodology updates were made to modelling areas where it considered there were errors in our Draft Determinations approach. We think the balance of the overall package for RIIO-GD3 is fair and provides a reasonable balance between risk and reward for GDNs. We note that since our Draft Determinations we have undertaken a collaborative process to address modelling inconsistencies and allowed additional totex for all GDNs, as well as reduced targets in two policy areas.

5.522 NGN disagreed with our proposed 50% TIM sharing factor for all networks. It proposed an alternative approach based on differentiated sharing factors, with those networks which are at or beyond the efficiency benchmark receiving a higher sharing factor than those which are lagging the benchmark. It suggested this would improve the incentive properties of the TIM, and reward credible ambition in business plans. We note the BPI is designed to reward companies for ambition in business plans and think accounting for this through TIM risks overlap and potentially complicated incentive structures. We think it is reasonable for all GDNs to have the same opportunity to outperform their allowances during the price control period. Some of the drivers of underspend can be for reasons outside of management control, and we therefore don't think that different customers should be exposed to different sharing rates in these instances.

5.523 SGN proposed a 90:10 sharing factor for MOBs costs, noting high uncertainty of its cost estimates in this area. We do not agree that cost uncertainty on specific areas should be addressed directly through the TIM and think doing so would

create an overly complex reporting system in RIIO-GD3. We note that changes to HSE regulations relating to risers are covered within the scope of the HSE Policy Re-opener, and that we have introduced a new re-opener for Complex Distribution Systems, an emerging area of MOBs work where costs are less certain. We think these mechanisms account for cost uncertainty relating to MOBs. See Chapter 4 for more detail on these re-openers.

5.524 A consumer body disagreed with our proposed approach to the TIM in our Draft Determinations, proposing that sharing factors should be set on a consistent basis between sectors and at lower levels than previous price controls. It argued that consumers could risk paying for funding in excess of actual spending if allowances are set too high, and suggested there was a consistent pattern of underspend across different sectors and price controls. It proposed lowering the TIM sharing factor to align with our proposed rate in the ET sector. We note that we undertake an extensive cost assessment benchmarking exercise, including the application of efficiency challenges, to determine appropriate and efficient allowances for network companies. We think it is important to retain strong incentives for GDNs to outperform their cost allowances where possible. We have used a suite of PCDs and UMs to minimise the potential for unjustified outperformance in RIIO-GD3. The latest RRPs submitted in July 2025 show half of the companies (2 out of 4) and half of the networks (4 out of 8) are forecasting underspends for RIIO-GD2, with half forecasting overspends. We think a 50% sharing factor, combined with our view of efficient ex ante allowances and regulatory mechanisms, provides the right balance on incentives for GDNs to outperform and continue driving cost efficiency in RIIO-GD3.

Business Plan Incentive

Business Plan Incentive - Stage B

5.525 This section sets out our approach to assessing Stage B of the BPI for the GDNs in our Final Determinations. Further details on company performance against Stage B of the BPI are set out in the company annexes. Details of the overall structure of the BPI and our approach to assessment is set out in Chapter 5 the Overview Document.

Network level results

5.526 Table 47 below summarises the Final Determinations results of our BPI Stage B assessment for the GDNs, showing the final output in basis points of RoRE.

Table 47: RIIO-GD3 BPI Stage outputs (bps of RoRE)

Network	FD Stage B - Comparative	FD Stage B - Bespoke	Total
EoE	1.13	1.22	2.36
Lon	-3.47	1.66	-1.80
NW	-8.79	0.81	-7.97
WM	36.32	1.10	37.41
NGN	1.30	0.40	1.70
Sc	-1.91	0.20	-1.71
So	-6.24	0.58	-5.66
WWU	-8.67	0.66	-8.01

Assessment methodology

Background

5.527 Stage B assesses whether the costs submitted as part of the business plan are adequately justified and efficient. In our Draft Determinations, we proposed using two separate assessment methodologies, one for costs which are assessed comparatively, and one for more bespoke costs. The overall result for Stage B is then calculated as the weighted average of the outcomes from each methodology.

5.528 For comparatively assessed costs, there are two categories of assessment, econometric modelling and separate comparative assessment using non-regression benchmarking approaches.

Final Determinations summary

Component	Final Determinations	Draft Determinations
Comparative efficiency benchmark	81st percentile of the efficiency scores range.	Change - 85th percentile of the efficiency scores range.
Reward/penalty of comparatively assessed cost	Determined by their own efficiency scores, relative to the efficiency benchmark.	Same as FD.

Final Determinations rationale and Draft Determinations responses

5.529 We have decided to maintain the Stage B methodology we proposed in our Draft Determinations. We have applied the assessment for BPI Stage B in line with our decisions on our cost assessment approach, set out in the Exclusions, Totex Benchmarking and Non-regression analysis sections of this chapter. All costs assessed through technical assessment (including bespoke outputs) are assessed

as 'bespoke costs' under the BPI Stage B assessment. See the Technically assessed costs section in Chapter 5 and the company annexes for further details.

5.530 We have decided to apply the efficiency benchmark for comparatively assessed costs at the 81st percentile. We consider this more accurately aligns with the overall catch-up efficiency challenge applied in the totex benchmarking. In its response, Cadent noted a misalignment between the overall level of catch-up efficiency challenge applied within our totex model and the benchmark efficiency measure applied in our BPI Stage B calculations. It suggested that, because our catch-up efficiency challenge on totex included a three-year glide path from 75th percentile to 85th percentile, the average level of efficiency challenge applied across the RIIO-GD3 forecast was equivalent to a flat 81st percentile challenge. In our Draft Determinations, we proposed applying a flat 85th percentile challenge when calculating the Stage B BPI scores. We consider Cadent's suggestion of applying an 81st percentile challenge to the Stage B BPI rewards is a pragmatic approach to addressing this misalignment. The alternative approach of calculating annual BPI efficiency scores based on different efficiency benchmarks in each year is overly complex given the materiality of reward. Therefore, we have adopted an 81st percentile benchmark for the purpose of calculating the Stage B BPI reward in our Final Determinations.

5.531 We have decided to maintain the methodology in our Draft Determination to determine the reward (or penalty) based on a GDN's efficiency position between the frontier (or bottom of efficiency score range) and the benchmark. Cadent responded that there is a close clustering of networks of the top three efficiency ranking around the benchmark in our Draft Determinations modelling results, and it is unfair and not proportionate in the difference of its reward and penalty. However, the BPI Stage B reward mechanism in our Draft Determinations already reflects the closeness of GDNs' efficiency, where Position 2 receives a higher reward if its efficiency is closer to the Position 1, and can receive up to the maximum reward if the efficiency score is close enough. In addition, in our Final Determinations, as the efficiency scores of Positions 2 to 4 are close around the benchmark, we do not think it is fair to give extra reward to any one of them by moving away from the mechanism in our Draft Determinations.

Comparatively assessed costs

5.532 Efficiency scores for totex are estimated based on the outputs of our econometric modelling. For separately assessed costs, a GDN's efficiency score is determined by the ratio between its normalised submitted costs and the modelled costs, across all years of RIIO-3 price control period. We have applied this assessment

at the aggregate level, combining the costs for each of the activities assessed through this approach and then calculating the efficiency score.

5.533 For the two categories of comparatively assessed costs, GDNs' BPI Stage B score is determined by their own efficiency scores, relative to the efficiency benchmark of the GD sector. As explained above, the efficiency benchmark is set at the 81st percentile of the range of GDNs' efficiency scores. This is in line with the level of the three-year glide path of efficiency catch-up target for RIIO-3.

5.534 BPI scores are derived separately for totex assessed by econometric models and separately assessed costs. The weighted average BPI reward or penalty for comparative costs are presented in Table 47 where the weights are calculated based on normalised submitted costs of the two categories.

Bespoke costs

5.535 The reward or penalty for bespoke costs is based on an in-the-round assessment of the quality of the justification submitted for each bespoke cost activity. Where a proposal or commitment has not been accepted, the costs associated with it will not be assessed in Stage B. This is to avoid overlap with Stage C.

5.536 The assessment criteria are the same as in our Draft Determinations, and the BPI rates are derived separately for each bespoke cost area. Scoring of individual bespoke costs for each network is set out within company documents. The reported BPI reward or penalty for bespoke costs in Table 47 are the average BPI reward or penalty weighted by each GDN's normalised submitted costs.

Appendices

Appendix 1 – BAU Vulnerability and CO Safety activities to be funded through baseline allowances

Summary of BAU activities

A1.1 We have decided to fund the BAU vulnerability and CO safety activities outlined in Table 48 through baseline allowances. We have included a high-level summary to outline why we consider these activities to be both BAU and suitable for funding through baseline allowances.

A1.2 We provided guidance on these activities to the GDNs in the autumn of 2024 and they submitted costs in their business plans based on this list.

Table 48: RIIO-GD3 BAU vulnerability and CO safety activities to be funded through baseline allowances

Activity Area	**Specific Activity**	**Comment**
Campaigns and education	Campaigns on PSR.	GDNs have a LO to register eligible customers for the PSR. Therefore, we will consider proposals for campaigns on the PSR in baseline allowances as a core BAU activity.
Campaigns and education	Education on PSR.	GDNs have a LO to register eligible customers for the PSR. Therefore, we will consider proposals for education initiatives on the PSR in baseline allowances as a core BAU activity.
CO	Additional checks following CO reports and/or alarms.	This is an immediate gas safety issue. As such, we will consider proposals for additional checks following CO reports and/or alarms in baseline allowances as a core BAU activity.
CO	Annual CO awareness campaigns.	We recognise the importance of increasing CO awareness through campaigns, and the overlap between these campaigns and other core areas of the GDNs' activities and responsibilities. Therefore, we will consider proposals for annual CO awareness campaigns in baseline allowances as a core BAU activity.

Activity Area	**Specific Activity**	**Comment**
CO	CO education (schools and wider community).	We recognise the importance of increasing CO awareness through education, and the overlap between these education initiatives and other core areas of the GDNs' activities and responsibilities. Therefore, we will consider proposals for CO education (schools and wider community) in baseline allowances as a core BAU activity.
CO	Provision of CO/specialist alarms.	The provision of CO/specialist alarms to eligible households is now considered BAU and is a means by which the GDNs can directly improve consumer safety while undertaking their core activities and functions. Therefore, we will consider proposals for the provision of CO/specialist alarms in baseline allowances as a core BAU activity. We will work with the GDNs and stakeholders to review eligibility requirements and consider updating the VCMI Governance Document accordingly.
Connections	Funded alterations for access to the Emergency Control Valve (ECV) and/or meters.	The GDNs have a LO related to funded alterations for access to ECV and/or meters and this is already considered BAU. This includes situations where the householder cannot access the ECV and/or meter due to physical restrictions or other vulnerability needs. We will continue to consider proposals for these activities in baseline allowances as a core BAU activity.
Measurement and eligibility	Eligibility checks.	GDNs undertake eligibility checks for a range of BAU and VCMA projects. We consider it may be more efficient to resource these checks internally rather than through external organisations. Therefore, we will consider proposals for eligibility checks in baseline allowances as a core BAU activity.

Activity Area	**Specific Activity**	**Comment**
Measurement and eligibility	Maintenance and development of Social Return On Investment (SROI) tools for BAU and VCMA evaluation.	The SROI tool is required for the GDNs to deliver evaluation elements of the price control. Therefore, we will consider proposals for its maintenance and development in baseline allowances as a core BAU activity. We will work with the GDNs to set expectations on what maintenance and development is required in RIIO-GD3.
Memberships and accreditation	Memberships (including British Standards Institution/ International Organization for Standardization accreditation of inclusive services) and events.	We recognise there can be benefits from the GDNs' staff having relevant accreditations. Therefore, we will consider proposals for memberships and events in baseline allowances as a core BAU activity.
Personalised welfare	Including alternative heating, cooking, hot water, food and accommodation.	These activities are related to legislative obligations under GSOP 3 and (for most GDNs) are already funded through as BAU through baseline allowances. Therefore, we will consider proposals for personalised welfare in baseline allowances as a core BAU activity.
Safeguarding services	Including locking cooker valves, easy assist ECVs, translations apps for engineers.	Locking cooker valves, easy assist ECVs and translation apps for engineers have been part of the GDNs' BAU for many years. Therefore, we will consider proposals for only these three specific activities in baseline allowances as a core BAU activity. Other safeguarding services could, if eligible, be funded through the VCMA.
Training	Internal training of customer	GDNs should already be providing specific internal training to customer facing employees, including on

Activity Area	**Specific Activity**	**Comment**
	facing employees.	issues related to specific issues of vulnerability, as part of their obligations to meet the needs of their customers. We will consider proposals for the internal training of customer facing employees in baseline allowances as a core BAU activity.
Vulnerable customer support	Dedicated teams to support customers during works and triage of engineers referrals for support.	These activities are directly related to the GDNs' core roles and responsibilities, and the GDNs employ dedicated staff to work on this area. Therefore, we consider this to be BAU and suitable for funding through baseline allowances.