Northern Gas Networks Limited

Regulatory Financial Performance Report (RFPR) 20/21

July 2021

Contents

we are the network

1. Overview

This report sets out the details of our performance in 2020/21 being the final year of the RIIO-GD1 Regulatory Period, with comparison to prior years.

The results for the 2020/21 reporting year shows continued strong performance against the RIIO-GD1 Regulatory Contract both in terms of value (cost to deliver) and service delivery (Outputs):

- As measured by Ofgem, ***we remain the most efficient GDN in the country***. This means that we deliver our services at the lowest overall cost so that our customers can be sure that they are receiving the best value for money. We continue to strive for ways in which we can continue to cut the costs of providing our services and seek out new and innovative ways of running our business in both the short and longer term. We have maintained this frontier position since 2013.

- We have again ***delivered and in many cases exceeded all of the output targets*** set by the Regulator for the eight-year period since 2013. We are one of a small number of companies to deliver on these commitments. We have always strived wherever possible to go above and beyond these targets where this is supported by customers. We have introduced additional and enhanced voluntary targets throughout the period that further extend the value we are delivering.

Further details of performance can be found within NGN's RIIO-GD1 Year 8 Report.

Note on enduring value adjustments

Enduring value is defined as an adjustment made to a licensee's financial or operational performance to reflect true performance against regulatory targets. This could include any timing differences (past or future) on delivery when compared to the allowance, any future uncertainty mechanism claims, and any future close out mechanism adjustments. NGN do not consider it appropriate to make any enduring value adjustments in relation RIIO-GD1. Note that Covid-19 has impacted both costs and workload during the final year of RIIO-GD1, and this will be considered as part of the RIIO-GD1 close out process.

Covid-19 impact

The Covid-19 pandemic had a significant effect on our operations and costs in 2020/21 and will continue to do so into RIIO-GD2. Many of our activities are customer facing, and we were acutely aware of the impact Covid-19 would have both on our customers and our employees. As a key emergency service, it was extremely important we responded appropriately to the challenges we faced in unprecedented times. This was a complex situation with many time critical decisions to be made with material impacts on services and outcomes for NGN, its employees and our customers.

We believe that we did indeed rise to the challenge – we achieved a near 100% response rate for both the 1 and 2 hour emergency response standards, our customer satisfaction scores remained very high and indeed improved in some cases, we performed very well against all of the guaranteed standards, whilst still delivering the majority of our outputs. The only areas we stepped back from included major asset works which for largely operational reasons it was not appropriate to complete, and non-emergency replacement work which has significant customer interactions.

Importantly prior to the pandemic we were ahead of schedule in most cases and on track to deliver all of the work that was delayed. However, the pandemic lead to a 3 month stand down in activity for both NGN and its contractors. When work did restart new Covid-19 secure ways of working severely impacted productivity and increased costs. The combination of these factors meant work couldn't be completed prior to winter, when we are constrained on how much and the type of work we can carry out on many of our critical assets. This inevitably led to some work not being completed at all, or being substituted.

We have seen significant opex cost pressures as a result of the pandemic, summarised in the table below:

Area	Cost impact
Stranded direct labour resource	£3.1m
Purchase of Personal Protective Equipment (PPE)	£1.2m
Increased contractor costs	£0.8m
Training costs	£0.1m
Communications, barriers and signage	£0.1m
Total	**£5.1m**

The impact was also seen within Repex. In 2020/21 we spent materially the same as we expected to whilst delivering lower workload. This is reflected in the average unit cost, which increased from £179 per meter in 2019/20 to £228 per meter in 2020/21. This was entirely driven by the Covid-19 pandemic and the cost pressures we experienced.

With regard to Capex, where possible NGN enacted the force majeure clauses within its project contracts during the latter weeks of March into April 2020. As a result, the immediate effect on the capex program was small as many of the projects were pre-mobilization, and simply were paused with minimum consequences. However, three projects were in-flight and had mobilized which has led to significant cost pressures (Penrith, Pannal Security and Lamesley).

Further details can be found within NGN's RIIO-GD1 Year 8 Report.

RIIO – Performance Overview (Output KPIs)

Northern Gas Networks Outputs

Northern Gas Networks

Outputs

Safety

- Uncontrolled gas escapes within 1hr – **99.5%**
- Controlled gas escapes within 2hrs – **99.8%**
- Repairs completed within 12hrs – **64.3%**
- Repair risk – **23.0m**
- Iron mains off risk – **497.6km**
- Major accident prevention

Environmental

- Outperformed in both our shrinkage & leakage targets
- Business Carbon Footprint – Achieved a 4% reduction in tCO2e in 2019/20
- Use of virgin aggregate & spoil to landfill
- Broad measure performance – Met all our voluntary targets

Connections

- Guaranteed standards of service

Customer service

- **8.92/10** Planned interruption surveys
- **9.48/10** Emergency & repair surveys
- **9.05/10** Connections surveys
- **2.44** Complaints metric
- **6.96** Stakeholder engagement

Reliability

- Number & duration of planned interruptions
- Number & duration of unplanned interruptions
- Network Capacity - (1 in 20 obligations)
- Gasholder decommissioning

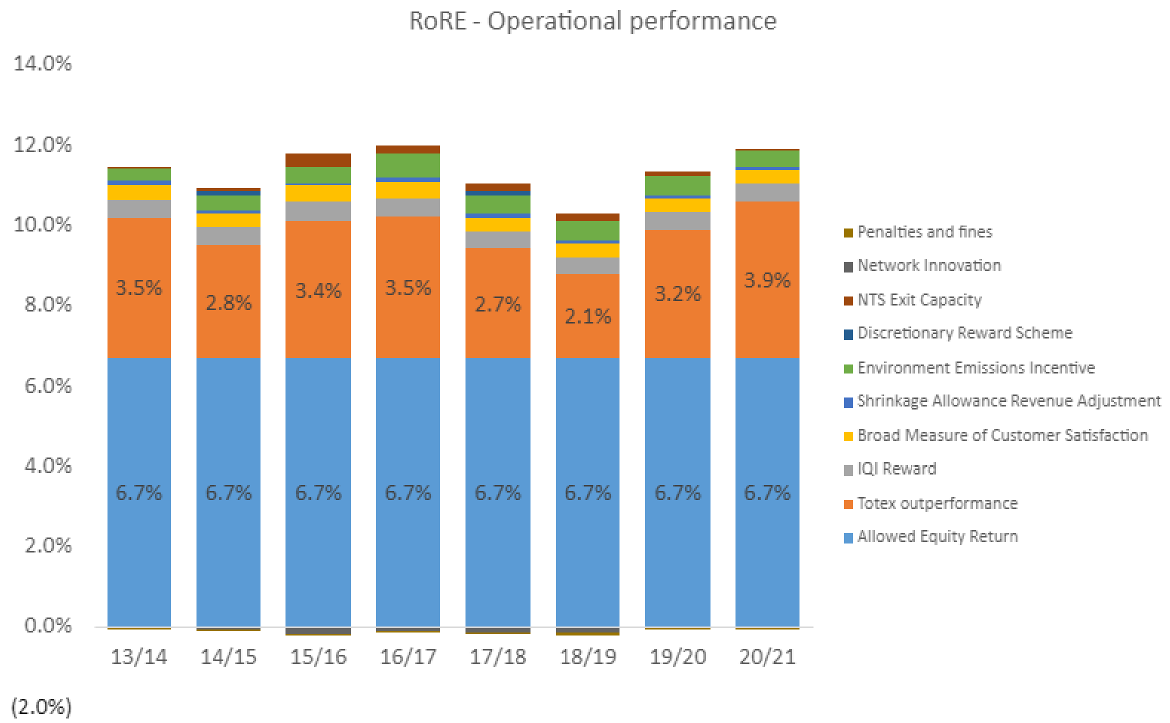
Social obligation

- Fuel poor connections – 1,993 Cumulative total is 14,762, exceeding our full GD1 target of 14,500
- Carbon monoxide awareness

2. (R1) Return on Regulatory Equity (Rore)

Ofgem use the Return on Regulatory Equity (RORE) to measure the potential financial returns or penalties on the portion of the value of the company that is financed by equity. RORE is calculated by using the cost of equity (6.7%) as the starting point as this amount is funded directly in revenue. The cash value of any outperformance from the incentive mechanisms is then divided by the 35% notional equity portion of the Regulatory Asset Value to calculate the additional return on equity earned. Performance is shown below:

RORE	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	RIIO to date
Base cost of equity	6.7%	6.7%	6.7%	6.7%	6.7%	6.7%	6.7%	6.7%	6.7%
Totex	3.5%	2.8%	3.4%	3.5%	2.7%	2.1%	3.2%	3.9%	3.1%
IQI Income	0.4%	0.5%	0.5%	0.5%	0.4%	0.4%	0.4%	0.4%	0.4%
Customer Satisfaction	0.4%	0.3%	0.4%	0.4%	0.3%	0.3%	0.4%	0.3%	0.4%
Shrinkage	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.1%
Environmental Emissions	0.3%	0.4%	0.4%	0.6%	0.5%	0.5%	0.5%	0.4%	0.4%
Discretionary Reward	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
NTS Exit Capacity	0.0%	0.1%	0.4%	0.2%	0.2%	0.2%	0.1%	0.0%	0.1%
Network Innovation	(0.0%)	(0.1%)	(0.2%)	(0.1%)	(0.1%)	(0.1%)	(0.0%)	(0.0%)	(0.1%)
Penalties and Fines	(0.0%)	(0.0%)	(0.0%)	(0.0%)	(0.0%)	(0.1%)	(0.0%)	(0.0%)	(0.0%)
RoRE - Operational	11.4%	10.8%	11.6%	11.9%	10.9%	10.1%	11.3%	11.8%	11.2%
Debt Performance (notional gearing)	4.2%	1.9%	(0.1%)	1.8%	4.6%	2.9%	1.9%	(0.8%)	2.0%
Tax performance (notional gearing)	(1.3%)	(1.3%)	(0.6%)	1.5%	0.0%	0.6%	(0.4%)	0.3%	(0.1%)
RoRE – including Finance and Tax	14.3%	11.5%	10.8%	15.1%	15.5%	13.6%	12.8%	11.4%	13.1%



3. (R2) Revenue

Allowed Revenue

Allowed revenue for 2020/21 was £439m, a decrease year on year of £3m (0.6%). The breakdown of allowed revenue is shown below.

(20/21 Prices)	Actual								RIIO Total	Avg. Year
	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21		
BASE REVENUE	**463**	**468**	**485**	**466**	**450**	**455**	**462**	**471**	**3,719**	**465**
Adjustments to Base Revenue Allowances:										
Cost of debt	0.0	(2.7)	(5.2)	(7.6)	(10.1)	(13.1)	(21.9)	(28.3)	(88.9)	(11.1)
Non-Controllable Costs	1.5	2.4	(4.5)	(5.4)	(5.1)	(5.5)	0.5	(4.3)	(20.4)	(2.6)
Totex Incentive	0.0	0.0	(2.8)	(2.0)	(3.8)	(3.8)	(2.3)	(0.6)	(15.3)	(1.9)
RPI true up	0.0	0.0	1.6	(6.6)	(10.1)	(1.8)	1.1	(0.3)	(16.0)	(2.0)
Pension Deficit	0.0	0.0	0.4	0.4	0.4	(3.8)	(4.2)	(4.3)	(11.0)	(1.4)
Other	(0.0)	(0.0)	(1.6)	(1.1)	(3.6)	(5.0)	(5.7)	(7.3)	(24.3)	(3.0)
Total	**1.5**	**(0.3)**	**(12.1)**	**(22.3)**	**(32.2)**	**(33.0)**	**(32.4)**	**(45.2)**	**(176.1)**	**(22.0)**
Incentive Income:										
Collected during RIIO-GD1 (with 2-year lag) *	0.0	0.0	6.8	7.6	11.1	11.6	10.1	10.2	57.3	7.2
Earned before RIIO-GD1	1.3	5.0	1.6	2.6	2.0	2.2	3.4	2.8	20.9	2.6
Total	**1.3**	**5.0**	**8.3**	**10.2**	**13.0**	**13.9**	**13.5**	**12.9**	**78.2**	**9.8**
(Over) / Under Collection	(3.6)	0.0	(3.6)	3.1	7.2	(10.9)	(1.2)	0.5	(8.5)	(1.1)
ALLOWED REVENUE	**462**	**472**	**478**	**457**	**438**	**425**	**442**	**439**	**3,613**	**452**

Our domestic customer bill analysis shown above is calculated based on NGN average Annual Quantities (AQ) and peak daily capacity requirements, which gives an average domestic customer bill of £139.

Allowed Revenue movement year on year

(20/21 prices)	Actual								RIIO Total
	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	
2020 FORECAST	462	472	478	457	438	425	442	440	3,614
Inflation impact:									
2019 RPI forecast	2.9%	2.0%	1.1%	2.1%	3.7%	3.1%	2.6%	1.7%	
2020 RPI forecast	2.9%	2.0%	1.1%	2.1%	3.7%	3.1%	2.6%	1.2%	
Variance %	0.0%	0.0%	0.0%	0.0%	(0.0%)	0.0%	0.0%	(0.5%)	
Cumulative Variance %	0.0%	0.0%	0.0%	0.0%	(0.0%)	(0.0%)	0.0%	(0.5%)	
Impact £m on base revenues	0.0	0.0	(0.0)	(0.0)	(0.0)	0.0	(0.0)	(0.0)	(0.0)
Other Changes:									
Shrinkage & Env. Incentive	0.0	0.0	0.0	0.0	0.0	0.0	(0.0)	0.1	0.1
Cost of debt Index	0.0	0.0	0.0	0.0	(0.1)	0.1	(0.0)	(0.0)	(0.0)
Under/(Over) Collection	0.0	0.0	0.0	0.0	0.0	0.0	(0.0)	0.0	0.0
Shrinkage & Env. Incentive	(0.0)	0.0	(0.0)	(0.0)	(0.0)	(0.0)	0.0	(1.3)	(1.3)
2021 ACTUALS	462	472	478	457	438	425	442	439	3,613
YOY Movement	0.0	0.0	0.0	0.0	(0.1)	0.1	(0.0)	(1.1)	(1.1)

4. (R3 & R4) Totex

The largest contribution to our RORE performance comes from our Totex outperformance. Under the Totex incentive mechanism any outperformance is shared with our customers who receive 36% of any outperformance through lower bills.

Performance against RIIO-GD1 allowances is shown below:

Totex forecasts 2020/21 prices (£m)	13/14 Actual	14/15 Actual	15/16 Actual	16/17 Actual	17/18 Actual	18/19 Actual	19/20 Actual	20/21 Actual	Total	Allowed	Variance
Opex	94.1	96.5	90.8	91.3	89.0	85.3	84.6	86.5	718.1	894.7	(176.7)
Capex	47.0	55.7	69.2	65.5	56.0	62.0	51.5	42.2	449.0	455.2	(6.2)
Repex	103.1	108.2	97.6	94.8	97.5	99.9	99.4	100.0	800.5	916.5	(116.0)
Totex	**244.3**	**260.3**	**257.5**	**251.5**	**242.5**	**247.2**	**235.6**	**228.7**	**1,967.5**	**2,266.4**	
Allowance	**284.4**	**292.6**	**296.9**	**292.9**	**275.1**	**272.5**	**274.8**	**277.3**	**2,266.4**		
Variance	(40.1)	(32.3)	(39.4)	(41.4)	(32.6)	(25.3)	(39.2)	(48.6)	(298.9)		
Cumulative Variance	(40.1)	(72.3)	(111.8)	(153.2)	(185.8)	(211.1)	(250.3)	(298.9)			

Opex financial and output performance

The table below provides a summary of our controllable Opex performance against the allowance over the whole RIIO-GD1 period.

Opex forecasts 2020/21 prices (£m)	13/14 Actual	14/15 Actual	15/16 Actual	16/17 Actual	17/18 Actual	18/19 Actual	19/20 Actual	20/21 Actual	TOTAL
Work management	15.6	18.2	19.9	20.3	17.0	15.1	15.1	16.0	137.2
Emergency	11.5	11.7	11.7	11.4	11.7	11.0	10.2	10.9	90.0
Repair	19.1	17.2	15.3	14.9	15.7	16.7	16.5	18.8	134.2
Maintenance	9.8	10.7	11.1	11.2	11.6	12.4	12.9	11.7	91.5
SIUs	-	-	-	-	-	-			-
Other direct activities	7.8	7.8	7.3	7.3	6.3	5.9	5.2	6.0	53.7
Of which Xoserve	4.4	4.9	4.8	4.2	3.6	2.6	2.3	2.0	28.9
Total direct Opex	**63.8**	**65.6**	**65.3**	**65.1**	**62.4**	**61.2**	**59.8**	**63.5**	**506.6**
Business support	27.5	28.1	23.4	24.0	24.7	22.0	22.2	20.9	192.9
Training/apprentices	2.8	2.7	2.0	2.2	1.9	2.1	2.7	2.2	18.6
Total indirect Opex	**30.3**	**30.9**	**25.4**	**26.2**	**26.6**	**24.1**	**24.9**	**23.0**	**211.4**
Total controllable Opex	**94.1**	**96.5**	**90.8**	**91.3**	**89.0**	**85.3**	**84.6**	**86.5**	**718.1**
Allowance	113.1	114.4	115.1	115.2	111.1	109.9	108.7	107.1	894.7
Variance	**(19.0)**	**(17.9)**	**(24.3)**	**(23.9)**	**(22.1)**	**(24.6)**	**(24.1)**	**(20.6)**	**(176.7)**
Cumulative Variance	(19.0)	(36.9)	(61.2)	(85.2)	(107.3)	(131.9)	(156.0)	(176.7)	

Over RIIO-GD1 we outperformed the controllable Opex allowances by £176.7m (19.7%). It is important to remember that the allowances are benchmarked against the other GDNs, and as the frontier company, the allowances we were set are in some cases higher than our base costs when the allowances were set.

There are several key drivers for our strong performance against these benchmarked Opex allowances. The main driver is our historic operational efficiency and the further improvements we have delivered in RIIO-GD1. We estimate this will account for 72% of our outperformance over the period, c£128m out of c£177m, or £16.0m per annum.

A major driver for this efficiency is our modernised employee terms and conditions. These deliver a number of benefits which impact across the network, with the greatest impact in controllable Opex. We have:

- Refreshed our previously ageing workforce;
- Introduced more flexible working arrangements that match business and customer requirements;
- Incentivised employee performance – employee reward is now mainly linked to delivery of the Regulatory Contract;
- Revised terms and conditions that more closely reflect market rates; and
- Recruited, trained and developed a workforce ready to meet future challenges.

We have over 500 employees on new terms and conditions and over 600 on personal contracts out of an internal workforce of nearly 1,400. In terms of efficiency we estimate this is now delivering around £9m of benefits each year in Totex, with the majority (over £6m) being realised in our Emergency, Repair and Maintenance activities in Opex.

We have also invested significantly in technology and process improvements and will continue to do so in the remainder of RIIO-GD1. We have made significant efficiencies in our IT and Telecoms delivery model and have seen operating costs reduce by c£6m over recent years through the refresh of our service contracts, insourcing of many key activities, and review of our licence and system requirements.

Further efficiencies have been delivered through business process improvements across all of our back office and front office processes. We have further optimised all of our field based work patterns, reduced head count in many areas such as Street works and Dispatch through process improvements and the use of technology and seen benefits from reduced overtime and average salaries across our supervisory workforce. We have introduced a Digital Operations room and Remote Hub which allows us to monitor work patterns and results more effectively.

As part of our Repex programme we have consistently targeted some of our poorest performing pipes. This is a key driver for improving our emergency and repair performance over RIIO-GD1, and over time we would expect both costs and workload to trend downwards. In addition, winters have been relatively mild in RIIO-GD1 compared to the last price control period, which has impacted overall workload, overtime payments and contractor costs. We estimate that over RIIO-GD1 these milder conditions will deliver net savings of c£20.4m when compared to the allowance.

	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
PREs	89,290	83,446	93,411	90,016	90,224	82,713	74,948	70,115
Reports	24,197	22,082	20,260	18,676	18,672	20,220	17,618	19,767
Repairs	25,526	22,377	19,933	17,801	17,484	19,169	17,317	17,794

However, in recent years we have experienced short periods of more extreme winter weather which has affected both costs and workload. We have seen severe flooding in 2015/16, which resulted in three major off-gas incidents, and in 2016/17 where one major incident resulted in 2,756 interruptions. During 2017/18 we saw increased workload across the winter months from December to March with the biggest increase in March during a sustained period of more extreme weather.

In 2018/19 we saw the number of Reports and Repairs increase, however this time the largest increase was during the summer months during a period of extreme warm weather. This most likely caused ground movement and increased leaks, leading to increased reports and repairs. In 2019/20 costs have remained broadly flat whilst workload has decreased. We are seeing repair complexity increase over time as iron pipes deteriorate faster than we can replace them, meaning each repair takes longer and is more costly. In 2020/21 both costs and workload have been impacted significantly by the Covid-19 pandemic. PREs fell during periods of lock down, whereas reports and repairs both increased.

All this shows that severe weather throughout the year is now becoming more prevalent and that we are not immune to shocks such as the Covid-19 pandemic. Recent workload increases and repair complexity suggests the underlying network performance is deteriorating faster than the repex programme delivers improvements. We have invested significantly in active pressure management and in adequate capacity at the local level to increase our ability to flexibly manage our system during these periods and to help manage these issues, ensuring that we minimise the risk of losing supplies.

Our Opex allowance in RIIO-GD1 included a one off allowance to manage the risks associated with potentially reinforcing large customers who were currently on interruptible contracts. Our successful management of this risk through network analysis, system balancing, and contingency plans is delivering a one off outperformance in this price control period of c£37.1m p.a.

Our maintenance workload has consistently been above the benchmarked workload allowed within the allowances, and prior to Covid-19 had increased in line with the strategy we outlined in our RIIO-GD2 Business Plan to increase maintenance work whilst reducing full asset replacement. We estimate this price control assumption is driving an £22.2m overspend against the allowance over RIIO-GD1.

There are two other primarily externally driven factors that are impacting our overall outperformance against the allowance:

- We estimate Land Remediation costs to be £2.8m lower than the allowance over RIIO-GD1. Costs for this type of work are very difficult to estimate and are largely driven by what you discover when the work is underway; and
- Xoserve costs are expected to be £8.0m lower than the RIIO-GD1 allowance.

In terms of Opex related outputs, the majority are related to our Emergency and Repair activities. We have delivered a strong performance across all of these outputs in RIIO-GD1. Highlights of our performance include:

- We achieved a near 100% response rate for both the 1 and 2 hour emergency response standards over the price control, significantly outperforming the 97% target;
- Our Annual Repair Risk score averaged 21.7m and trended downwards, well below the target of 34.5m;
- We completed on average 64.5% of repairs within 12 hours, above the target in each year;
- We saw 99,903 unplanned interruptions in total, comfortably below the ceiling target of 103,677. The duration of the interruptions was 39.5 million minutes, again below the ceiling target of 47.0 million minutes. We have more control over duration, and on average customers were interrupted for a shorter period of time than the target;
- We delivered a very strong customer service performance, showing an upward trend and scoring 9.5 out of 10 on our customer satisfaction surveys for unplanned works in the final year. Even when customers had an unplanned interruption, we dealt with it well; and
- We decommissioned 24 gas holders over RIIO-GD1, one more than target. The remainder will be decommissioned in RIIO-GD2.

Capex financial and output performance

The table below provides a summary of our capex performance against the allowance over the RIIO-GD1 period.

RIIO Capex forecast 20/21 prices (£m)	13/14 Actual	14/15 Actual	15/16 Actual	16/17 Actual	17/18 Actual	18/19 Actual	19/20 Actual	20/21 Actual	Total	Allowed
LTS, storage and entry	10.4	17.2	22.6	16.6	12.2	16.3	7.4	10.7	113.3	138.0
Connections	7.6	7.8	11.2	9.8	10.7	10.7	9.8	5.6	73.1	63.0
Mains Reinforcemen	3.3	2.0	3.6	2.4	2.3	2.5	4.0	6.3	26.5	43.7
Governors replacement	2.4	1.6	2.0	1.8	1.6	2.7	2.0	0.2	14.3	14.8
Other Capex	23.3	27.1	29.7	34.9	29.3	29.7	28.4	19.4	221.7	195.6
Of which IT	6.2	5.6	6.8	17.8	15.1	24.3	17.0	11.8	104.7	49.7
Of which vehicles	4.6	5.1	3.1	2.8	3.5	0.4	1.3	0.4	21.1	32.6
Total	**47.0**	**55.7**	**69.2**	**65.5**	**56.0**	**62.0**	**51.5**	**42.2**	**449.0**	**455.2**
Allowance	60.1	64.8	69.1	64.3	48.9	49.3	49.0	49.7	455.2	
Variance	**(13.1)**	**(9.1)**	**0.1**	**1.2**	**7.2**	**12.7**	**2.5**	**(7.6)**	**(6.2)**	
Cumulative	(13.1)	(22.3)	(22.2)	(21.0)	(13.8)	(1.1)	1.4	(6.2)		

Over RIIO-GD1 we have spent £449.0m, just under the overall allowance of £455.2m, and hence generated a RORE benefit of less than 0.1%. There are several key drivers for this overall performance.

Our investment covers both network and non-network areas. On the network side we have seen workload increases in response to unforeseen events, most notably we are investing in the security and erosion protection of our river overcrossings and major pipelines in response to the extreme flooding incidents we have seen over the three previous years. We estimate these factors have increased costs by c£14m over RIIO-GD1.

Our connections costs were £10.1m over the allowance in RIIO-GD1. We have seen a significant decrease in workload due to changes in the connections marketplace and general demand levels for new gas connections. Volumes fell further in 2020/21 as a result of the Covid-19 pandemic. We estimate these external economic factors will decrease costs over RIIO by c£18.9m or £2.4m p.a. This will be partially offset by an increase in Fuel Poor connections. Our aspiration has always been to exceed our target of 14,500 fuel poor connections, and in the end we delivered 15,601. This increased costs by c£2.3m over the price control.

The overall reduced workload and the mix of work has also impacted our unit costs and recovery rate. Compared to the benchmarked unit costs we estimate we spent c£17.7m more than the allowance over RIIO-GD1, or £2.2m p.a. This is after adjusting the net allowance related to Fuel Poor. There was an assumption in the price control that the near 60% recovery rate associated with connections would also apply to fuel poor which is incorrect. This has a £10.9m impact over RIIO-GD1.

We have also seen a significant reduction in reinforcement workload over RIIO-GD1 – 68.8km of main compared to an allowance of 140km. There are two key reasons for this. Our pressure management function and a Cost – Benefit based filter process has allowed us to address capacity constraints on the network by managing system pressures rather than installing new pipework. The other driver is reduced demand on the gas network when compared to the assumed levels when the allowances were set. We are required to design and manage the gas network to meet 1 in 20 peak demand requirements, which is the level of demand that would be exceeded in 1 out of 20 winters. Although we are forecasting a slight increase in the Peak demand this year, overall Peak demands have fallen below those levels assumed when setting the allowance.

However, we have seen volumes increase in the final two years, and as outlined in our RIIO-GD2 plan expect volumes of work to increase further. We are seeing increased demand for new large load connections and expect to fund significant levels of specific reinforcement associated with these new connections to the network. We also have a £7m reinforcement project for a major pipe reinforcement in Penrith to increase network capacity.

On the non-network side, we invested c£105m in IT and c£16m in our depot and office infrastructure over RIIO-GD1. This is c£69.4m in excess of the eight year allowance and delivers a world class smart IT and workplace environment, driving improvements in ways of working, decision making, and control. This will enable us to improve both the customer experience and deliver efficiencies and value for money into the future.

In terms of outputs, we have delivered the asset health improvements we committed to in our business plan by the end of RIIO-GD1. In addition:

- We delivered the 15,601 new fuel poor connections against a target of 14,500, an excellent result;
- Our Connections GSOS performance was also very strong, with all measures well above the 90% minimum standard in every year; and
- Our Connections Customer Survey results increased over the period, ending on a very high 9.05 out of 10 in 2020/21.

We were on track to deliver both the 'Asset Utilisation and Capacity' output target and our Physical Security Upgrade Programme (PSUP) at Pannal prior to the Covid-19 pandemic, with firm plans and projects in place to complete work at all of the relevant sites.

However, the Covid-19 pandemic lead to a near 3 month stand down in activity for both NGN and its contractors. When work did restart new Covid-19 secure ways of working severely impacted productivity. The combination of these factors meant much of the work couldn't be completed prior to winter, when we are constrained on how much and the type of work we can carry out on these critical assets. Some work on civils and general infrastructure has continued due to its less critical nature. Work is now expected to be completed at all sites by the end of September 2021.

Repex Financial and output performance

The table below provides a summary of our Repex performance against the allowance over the RIIO-GD1 period.

Repex actuals 20/21 prices (£m)	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	Total
HSE driven mains and services	75.3	82.1	73.4	74.8	71.0	72.9	70.4	69.7	589.4
Non-HSE driven mains and services	27.8	26.1	24.2	19.9	26.4	27.1	29.1	30.2	210.7
Risers	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.4
Repex totals	103.1	108.2	97.6	94.8	97.5	99.9	99.4	100.0	800.5
Allowance	111.1	113.4	112.8	113.4	115.1	113.3	117.0	120.4	916.5
Variance	(7.9)	(5.2)	(15.2)	(18.6)	(17.6)	(13.4)	(17.6)	(20.4)	(116.0)
Cumulative	(7.9)	(13.1)	(28.3)	(47.0)	(64.6)	(78.0)	(95.6)	(116.0)	

We outperformed the £916.5m Repex allowance by £116.0m (12.7%), generating an average RORE of 1.2% p.a. We achieved this whilst materially outperforming the primary Repex output, the amount of risk removed from the network. Customers now have a network which is significantly safer than at the start of RIIO-GD1.

We delivered 4,483km of mains abandonment overall, c2.7% more workload than is funded within the allowance. The table below provides further details:

Type (km)	Inferred Annual target	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	Total	Total Allowed
Tier 1 – funded	448	445.4	487.8	439.8	452.9	479.4	491.6	455.5	349.4	3601.8	3584.0
Tier 1 – customer funded	15.4	1.8	2.1	2.9	1.9	2.0	2.2	1.6	2.2	16.7	122.9
Tier 2a	7.7	8.8	7.6	5.3	4.1	7.9	3.8	9.5	17.1	64.1	64.1
Tier 2b	20.4	22.1	18.3	12.2	12.4	24.7	26.8	23.0	24.7	164.2	163.5
Tier 3	5	7.4	5.7	3.9	4.3	2.4	4.5	8.1	3.3	39.6	40.0
Iron mains	**496.5**	**485.4**	**521.5**	**464.2**	**475.5**	**516.4**	**529.0**	**497.6**	**396.7**	**3886.3**	**3974.5**
Iron > 30m	-	8.7	9.3	11.4	10.8	2.7	7.3	5.5	14.2	70.0	-
Steel	48.7	57.6	75.6	45.9	59.5	59.6	58.6	58.1	36.8	451.7	389.8
Other	-	10.4	10.7	8.6	8.6	13.3	8.1	7.0	8.3	75.0	-
Total	**545.2**	**562.1**	**617.1**	**530.1**	**554.4**	**592.0**	**603.0**	**568.2**	**456.0**	**4483.0**	**4364.3**

We delivered 3,886.3km of iron mains abandonment, 88.2km lower than the target of 3,974.5km. Breaking this down:

- Funded Tier 1 mains – we delivered 17.8km more than the target of 3,584km;
- Customer funded Tier 1 mains – we delivered 106.2km less than the target of 122.9km;
- Tier 2a – the target flexes to what we deliver – a total of 64.1km;
- Tier 2b / 3 – we delivered 0.3km more than the combined target of 203.5km

It's clear that the driver of the shortfall is in customer funded Tier 1 iron mains, which comes from customer driven rechargeable diversions. We are expected to fund this shortfall and were on track to deliver this at the end of 2019/20.

However, the Covid-19 pandemic had a significant effect on the workload we were able to deliver in 2020/21. We undertook an enforced 3 month stand down, and then saw reduced productivity from adopting new covid secure working practices. We also delivered a more expensive work basket, targeting projects with limited customer interactions, and in city centres which had previously been difficult to access. It is this that has driven the overall shortfall in iron mains abandonment.

Despite this we are delivering more work than is funded in other areas, driving the overall 2.7% increase compared to the overall target:

- We abandoned 70km of iron mains >30m from a domestic property in RIIO-GD1. We abandon this type of main where it represents the most cost effective long term option to deliver an all plastic network and to protect the network from encroachment or 'dynamic' growth. There is no allowed target or cost allowance for this;
- We abandoned 451.7km of steel, 61.9km ahead of target. The increase has mainly been in <=2" steel which we abandon when found, and volumes are higher than those we assumed when the Business Plan was set; and
- Other – we have abandoned 75.0km of other materials mains. There is no allowed target for this type of work.

This material increase in workload drove up costs over the 8 year price control. We estimate the combined increase to be c£26.6m, £7.5m related to steel, £19.1m related to iron over 30m and other mains.

<u>Repex efficiencies</u>

Despite the increase in workload we outperformed the overall Repex allowance. The main driver is our historic operational efficiency and the further improvements we have delivered in RIIO-GD1. We estimate this will account for a c£127m efficiency outperformance against the £916.5m allowance, more than offsetting the increase in workload detailed above. This equates to c£15.9m p.a.

The main driver for our outperformance has been our new operational approach to the delivery of the iron mains replacement programme, which we began in 2011. Over the next four years we removed the major contracting partners we had previously used, directly contracting with their smaller sub-contractors. This has had 3 main impacts;

- We removed a layer of man marking cost between ourselves and major contractor as well as their profit margin and corporate costs. We estimate this has reduced costs by between c£6m to £8m p.a;
- We rebuilt our own in house workload and programme management structure in order to gain control of the end to end Repex investment process, estimated to have delivered between £3m and £4m savings p.a. We achieved this through a much more rigorous design process with operational reviews,

site visits, better enabling works all allowing projects to start on time more often with vastly reduced contractor variations and down time; and

- Our materials and logistics costs have decreased by c£3m p.a. We have reworked and centralised our end to end procurement and logistics processes in order to gain greater control of costs and waste.

Together these changes have delivered significant improvements in workload delivery and efficiency and are the major driver for our outperformance.

However Covid-19 had a significant impact in 2020/21. In the short term much of our cost base is fixed, this together with the reduced productivity, more expensive work basket and stand down meant we spent c£4m more than we forecast to in 2020/21, whilst delivering lower workload. This is reflected in the all in average unit cost, which increased from £178 per meter in 2019/20 to £228 per meter in 2020/21.

Other Repex outputs

We performed strongly against the other outputs associated with the Repex programme:

- Risk removed is the main driver for the Repex programme and the primary output. Total risk removed was 219,404 over the price control, which meant we were 97% ahead of the eight year RIIO target of 111,191. This is an excellent result as we now have a significantly safer network;
- We were c11% behind target for the number of services replaced. Prior to the impact of Covid-19 on workload we were c5% behind target. This was partly down to mix and location of work, but we are also seeing fewer services replaced as a result of an emergency call out, reflecting the success of the replacement programme and the relatively mild winters we saw in RIIO-GD1;
- We delivered a very strong customer service performance, scoring 8.9 out of 10 on our customer satisfaction surveys in the final year;
- Gas in buildings events and fractures were both significantly below target supporting our approach to targeting the riskiest pipes; and
- We outperformed the revised targets for the number and duration of planned interruptions which both vary in line with the length of mains abandoned.

5. (R5) Output Incentives

The table below details the actual incentive income earned over RIIO-GD1. We earned an average incentive income per year of £9.9m.

20/21 Prices (£m)	Actuals (Earned)								RIIO Total	Avg. Yr
	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21		
Customer Satisfaction:										
Customer Service	2.1	2.4	2.4	2.3	2.2	2.2	2.2	2.2	18.0	2.3
Stakeholder Engagement	1.3	0.7	1.3	1.5	0.9	0.8	1.3	1.4	9.2	1.2
Complaints Penalty	-	-	-	-	-	-	-	-	-	-
Shrinkage & Environmental Emissions	3.7	4.0	4.1	6.6	5.3	5.4	5.3	4.8	39.1	4.9
NTS Exit Capacity	0.0	0.7	3.4	1.9	2.0	1.8	1.0	0.2	11.0	1.4
RIIO – DRS	-	0.9	-	-	1.0	-	-	-	1.9	0.2
Total RIIO-GD1	**7.1**	**8.7**	**11.3**	**12.2**	**11.3**	**10.3**	**9.8**	**8.6**	**79.3**	**9.9**

Customer Satisfaction

The aim of the customer satisfaction incentives is to improve levels of customer satisfaction and minimise complaints from the activities carried out by the gas networks. The incentives also seek to encourage us to undertake effective engagement with our stakeholders and reflect their views in the day to day operation of our business.

Our results have been consistently very strong. Overall this delivered an average incentive of £2.3m and a RORE impact of 0.4% over the price control.

Customer Service

We delivered a very strong performance in our customer service outputs. We achieved an average score of 9.17 across the three customer satisfaction survey areas in the final year, a strong performance and an improvement from last year's average score of 9.15. Our scores generally trended upwards over the eight years of the price control.

Complaints Handling

Complaints handling performance is measured via the complaints metric which is a composite score calculated as the weighted average of our performance against four elements – the percentage of complaints unresolved after 1 day, 31 days, the percentage of repeat complaints, and the number of Energy Ombudsman decisions that go against us

In 2020/21 we achieved a weighted complaint score of 2.4 which does not generate any penalties. Penalties would only be imposed if our score was 11.57 or more. This is a very strong performance and reflects our strong performance over RIIO-GD2, during which we were where consistently well below the 11.57 target.

Stakeholder Engagement

We received a £1.4m award under the Stakeholder Engagement Incentive scheme in 2020/21, our highest award in RIIO-GD1, which meant we averaged a £1.1m reward over the price control. We now focus on how feedback from our stakeholders is shaping our business and leading to measurable improvements and benefits.

Environmental Emissions and Shrinkage

We are responsible for purchasing gas to replace the gas lost through shrinkage and are incentivised to reduce these losses over time. Shrinkage comprises leakage from pipelines (c95%), theft from the gas network (c3%), and own use gas (c2%). The table below summarises our actual and forecast performance against the Environmental Emissions and Shrinkage incentives.

20/21 Prices	Actuals								RIIO Total	Avg. Yr.
	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21		
Shrinkage GWh:										
Allowed volumes	459.0	445.0	433.0	423.0	412.0	401.0	390.0	379.0	3,342	418
Actual / forecast	416.9	397.0	381.6	354.0	352.0	340.5	328.3	319.0	2,889	361
Variance	42.1	48.0	51.4	69.0	60.0	60.5	61.7	60.0	453	57
Variance %	9.2%	10.8%	11.9%	16.3%	14.6%	15.1%	15.8%	15.8%	13.7%	13.7%
Incentive Earned in year (£m)	**0.9**	**0.7**	**0.6**	**1.0**	**0.9**	**1.0**	**0.5**	**0.5**	**6.1**	**0.8**
Environmental Emissions GWh:										
Allowed volumes	434.0	420.0	408.0	398.0	386.0	376.0	364.0	354.0	3,140	393
Actual / forecast	395.2	374.9	360.1	332.0	328.7	319.1	306.0	296.9	2,713	339
Variance	38.8	45.1	47.9	66.0	57.3	57.0	58.0	57.1	427	53
Variance %	8.9%	10.7%	11.7%	16.6%	14.9%	15.1%	15.9%	16.1%	13.8%	13.8%
Incentive Earned in year (£m)	**2.8**	**3.2**	**3.5**	**5.6**	**4.4**	**4.4**	**4.8**	**4.3**	**33.0**	**4.1**

We successfully outperformed both our shrinkage and leakage targets over RIIO-GD1, reducing overall shrinkage by 80 GWh (17.4%), an excellent result, improving air quality and reducing carbon emissions. We have achieved this through a combination of:

- Reducing our metallic mains population through the replacement programme.
- Reducing system pressures through strong governance and close working practices between our pressure management, network validation and network maintenance teams.
- Managing our levels and use of MEG (Monoethylene Glycol), a gas conditioning agent used to saturate and swell lead yarn joints to reduce their propensity to leak gas.

Our results here have been consistently very strong, delivering an incentive of £39.1m in total, £4.9m per year, a RORE impact of 0.4%.

NTS Exit Capacity

The Exit Capacity incentive drives the gas networks to reduce gas exit capacity bookings, which are rights to flow volumes of gas from the national transmission system into our network. Reducing this cost will ultimately reduce overall costs in the gas transmission system and benefit end consumers.
On average we outperformed the target bookings by 12.3%, delivering an overall incentive of £11.0m, an average of £1.4m, and a RORE impact of 0.15%.

Gwh 20/21 Prices	Actuals								RIIO Total	Avg.Yr
	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21		
Allowed volumes	612	618	624	624	624	624	624	624	4,975	622
Actual / forecast	611	596	546	541	527	514	514	514	4,361	545
Variance	1	22	78	83	97	110	111	110	613	77
Variance %	0.1%	3.6%	12.6%	13.3%	15.6%	17.7%	17.7%	17.7%	12.3%	12.3%
Incentive Earned in year (£m)	**0.0**	**0.7**	**3.4**	**1.9**	**2.0**	**1.8**	**1.0**	**0.2**	**11.0**	**1.4**

Discretionary Reward Scheme

Our 2015-18 submission was ranked Number 1 among the gas networks. We were recognised for our commitment to local communities and the work we've undertaken over the last three years to help address a range of social, carbon monoxide safety and environmental issues. We are still awaiting the 2020/21 DRS score.

6. (R6) Innovation

We have increased our focus this year on maximising the overall value delivered from our innovation portfolio. We track and report on the benefits realised from innovation funded through the allowance. All innovation projects start with a problem statement which follows our 6-step innovation process, 'idea to implementation' and are assessed for qualitative and quantitative benefits. We undertake rigorous Cost Benefits Analysis, with defined assumptions and targets from the outset, which are then fully tested during the development of the solution.

For further details on our innovation projects and strategy please visit:

http://corporate.northerngasnetworks.co.uk/innovation/

7. (R7, R7a, R8, R8a) Financing & Net Debt

Cost of debt

In 2020/21 NGN's net interest cost on a nominal basis (per the regulatory definition) was £39.8m. The large reduction from the 2019/20 charge of £46.5m is mainly attributable to the repayment of a £200.0m 5.875% bond in July 2019 and the cost of carry on the US Private Placement debt raised in advance to fund the repayment. The expiry in March 2020 of certain interest rate swaps which were subject to relatively high interest rates payable by NGN was also a factor.

On a real basis the nominal interest cost of £39.8m translates to underperformance of £4.2m against the regulatory cost of debt allowance on the basis of actual gearing, contributing -0.7% to RoRE for the year.

As NGN's debt is 100% nominal (i.e. there are no inflation-linked debt instruments or derivatives in the funding structure), NGN will tend to underperform the cost of debt allowance in years when RPI inflation is very low or negative.

As an infrequent issuer of debt NGN is not able to manage its actual debt costs against the regulatory allowance purely through the timing of debt issuance. Derivatives (interest rate swaps) are therefore used to manage the extent to which NGN's actual debt costs are sensitive to market rates in any particular year.

Net Debt

Regulatory net debt increased from £1.47bn in March 2020 to £1.51bn in March 2021. The additional debt was used to fund investment in the network and supporting IT infrastructure.

No new long-term debt was raised by NGN in 2020/21. The aforementioned investment was funded by drawings under NGN's £160.0m credit facility, with outstanding loans increasing from £60m at 31 March 2020 to £95m 31 March 2021. The only debt repaid in the year was a £1.8m amortization payment on a European Investment Bank loan.

Completion of tables R7a & R8a

In periods before NGN adopted FRS102 for its accounts preparation (i.e. years to March 2014 and March 2015) there were no derivative fair values on NGN's balance sheet.

In table R7a P&L charges and cash flows attributable to interest on European Investment Bank loans and interest rate swaps before 2017/18 have been aggregated for simplicity.

8. (R9) RAV

The table below shows our RAV position for the 8 years of RIIO-GD1. This has been prepared in line with the most recent Price Control Financial Model (PCFM) as published in November 2019 and then rolled forward to include actuals to 20/21.

NGN's closing RAV position at 31st March 2021 is £2.35 bn as shown below:

RAV: 9/10 prices £m	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	Total
Opening asset value	1,577	1,566	1,576	1,597	1,622	1,644	1,665	1,684	**1,577**
Net additions	67	90	96	100	103	108	114	121	**800**
Depreciation	(79)	(80)	(74)	(75)	(81)	(88)	(95)	(105)	**(676)**
Closing asset value	**1,566**	**1,576**	**1,597**	**1,622**	**1,644**	**1,665**	**1,684**	**1,701**	**1,701**
RAV: Closing asset value (RFPR yr. end nominal)	1,852	1,881	1,934	2,030	2,126	2,212	2,283	2,356	2,356

9. (R10) Tax

There is an obvious increase in NGN's tax liability per CT600c between the 2015 and 2016 periods. This is primarily due to the change in accounting standards to FRS102 and how Repex is treated for accounts and corporation tax purposes. Previously a full deduction was allowed for the expense (Circa £90m per annum) but now this expense must be written down over the life of the asset, which is deemed to be 60 years.

There are no reconciling items for any non-regulated tax liability as NGN does not operate any unregulated activities.

The most significant adjustment for other factors is the one-off pension contribution of £58.8m that was made in 2018, this resulted in an effective £11.2m (58.8 @ 19%) reduction in the tax charge per the CT600c. This was a one-off adjustment and would not be expected each year.

The key reconciling items between the tax charge per the CT600 and the regulatory tax charge for NGN are the effects of Corporate Interest Restriction (CIR) and Research and Development Expenditure Credits (RDEC). These are annual adjustments included within the CT600.

Please note there are no figures included in rows 87 and 89, consistent with previous years as there is no overall impact upon the RORE calculation.

10. (R11) Dividends

The RIIO-GD1 dividend profile in nominal prices is shown below.

	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Dividend (£m)	71.5	58.4	80.0	90.3	91.4	93.5	97.0	101.0

11. (R12) Pensions

The pension tables within the RFPR reflect the deficit, contributions and asset / liabilities reported to Ofgem.

12. Data Assurance

The submission process is compliant with NGN's Regulatory Reporting Policy, which requires a full secure audit trail for the submission, segregated roles and responsibilities including independent completion and detailed checking roles. Step by step processes have been documented. All tables are allocated to members of the NGN Finance Management Team, and have been reviewed through departmental internal sign off, in accordance with our policies, by the Finance Director.

Much of the financial data financial data is based on other Regulatory Submissions including those detailed under Condition A40 in our Licence and it has been reconciled to audited statutory accounts. As such the base data is subject to the controls inherent in those processes.