



# A15 - NGN RIIO-2

Uncertainty and Risk

*together*

**we are  
the network**

## Uncertainty and Risk

### 1. Background

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In this appendix we summarize our approach to risk management and then set out the key risks and uncertainties we are likely to face in RIIO-GD2. We then consider whether an uncertainty mechanism is appropriate in order to manage the balance of risk between customers and the network.

Managing risks and uncertainties is a key focus as we are experiencing a time of major uncertainty as we look to transition to a low carbon future in the energy sector and there remains considerable uncertainty in the UK and global economy. We have a well-established approach to the management of this risk which underpins many of the assumptions our business plan is based on. This makes us best placed to manage the risks to the delivery of the business plan within the regulatory framework proposed for RIIO-GD2.

However we recognize price controls need to be flexible in order to adapt to potentially changing circumstances. Certain areas of our plan are clearly more uncertain than others. Even where work types are certain, volumes may move materially over time. Networks should be rewarded for the outperformance they deliver themselves and not from changes driven by external factors. We are therefore proposing the use of uncertainty mechanisms and volume drivers in several key areas. These uncertainty mechanisms allow network companies revenues to change in line with changes in requirements, protecting both customers and companies from forecasting risk.

### 2. NGN's approach to risk management

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NGN's approach to risk management is based on two key principles:

- We actively look to identify all potential risks to our business; and
- We then ensure sufficient controls are implemented in order to mitigate these risks in an efficient and manageable level.

We maintain a central corporate risk register which is regularly reviewed and updated at all levels within the company and across all areas of the business. In line with best practice the register includes the following:

- Quantification of the impact of all risks. We use a five point sliding scale consistent with High Medium Low classification;
- Probability assessment of the likelihood of an identified risk occurring. We use a five point sliding scale of probability;
- The overall risk score is the product of likelihood and impact. The level of the overall risk score then determines the appropriate type and level of management response required. The highest risks are the responsibility of senior management;
- Specific targeted management responses are identified to control each risk;

- All risks are assigned to managers who are responsible for implementing controls, and then tracking and monitoring the risk; and
- Risks are distinguished between internal and external risks.

## 2.1. Internal risks

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Internal risks stem from unsustainable or unattainable forecasts which cannot be delivered, or from the potential for inaccuracies within the base forecasts. These risks could impact consumers and other stakeholders. However, we believe such risks are minimal for the following reasons:

- The key business operations, processes and data which underpin this business plan are subject to rigorous quality control and validation including continual assessment from internal audit;
- All forecasts within this plan have been subject to assessment and challenge at every level of the business and have been approved by NGN's Board;
- We have clearly identified the key assumptions underlying this business plan, and have considered the scope for variance in the assumptions; and
- As detailed in section 2 of our plan we have a track record of not only delivering on our outputs, but more specifically on workload and the type and mix of work underpinning the overall workload targets.

Our 'Cost Confidence' analysis provides further details on our workload and cost forecasts and an assessment of confidence in our forecasts. However we have included two additional NGN specific uncertainty mechanisms in our plan for workload – related to Repex and Fuel Poor Connections. Further details are provided below.

## 2.2. External risks

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These are risks which could arise from a variety of areas e.g. regulatory, political and economic. The impact and likelihood of some of these issues are better understood than others. In all cases we are able to identify and manage these risks through our corporate risk management policy. We describe the main risks below.

Most risks have an identified control to mitigate the risk in line with our risk management strategy. For some risks (e.g. negative RPI) it is not possible to have a control and NGN will bear this risk. As far as possible this ensures that any risks that are borne by NGN or consumers are managed to efficient levels.

Significant reduction in cash flows from reduced revenue leading to poor credit ratios and inability to raise finance				
Control	Likelihood	Consequence	Risk rating	Change from RIIO-1
None this is a purely external change which NGN cannot mitigate without compromising the business and its stakeholders. The only control is to modify the regulatory framework.	Without controls High	Without controls Very high	Without controls High	Yes. Ofgems May 2019 Strategy document sets out a financial package that does not allow NGN to become financeable on an actual company basis, primarily due to a significant reduction in the Cost of Equity and the Cost of Debt indexation methodology not taking appropriate account of the tenor or mix of our debt.
	With controls Low	With controls Low	With controls Low	
Mitigation through regulatory framework?	Yes. NGN is proposing a financial package that has been stress tested to ensure appropriate financeability for both the notional company and the actual company. This primarily involves changes to the Cost of Equity and Cost of Debt. This is set out more fully in Section 7 of our business plan.			

Major or systematic asset failure				
Control	Likelihood	Consequence	Risk rating	Change from RIIO-1
Effective asset risk management.	Without controls Very high	Without controls Very high	Without controls Very high	No.
	With controls Low	With controls Low	With controls Low	
Mitigation through regulatory framework?	No. NGN has in place an effective asset management risk strategy, which has been improved during RIIO-1 with our Total Network Management approach and investment in technology such as C55 and SAP 4 Hana. Overall our RIIO-2 plan reduces risk as measures by Ofgems NARMS metric by the end of the price control			

Unable to raise debt at a cost in line with a new cost of debt index				
Control	Likelihood	Consequence	Risk rating	Change from RIIO-1
Effective management of short and medium term debt.	Without controls High	Without controls High	Without controls High	Increased risk.  The 2019 Strategy Document proposes an 11-15 trombone based on the iboxx index whereas we calibrate it as a 14-18 year trombone to cover the appropriate period indices. This is contained within our Business Plan proposal detailed in Section 7 of the plan.
	With controls Medium	With controls Medium	With controls Medium	
Mitigation through regulatory framework?	No. The proposed index has key limitations and does not provide an ability for companies to effectively hedge against movements in cost of debt. As set out in our business plan we estimate that the impact of these factors is around 47bps.  The impact of this accrues directly to equity increasing risk.			

Significant increase in streetworks costs (e.g. through TMA permit schemes)				
Control	Likelihood	Consequence	Risk rating	Change from RIIO-1
Management of operations to minimise level of costs incurred.	Without controls High	Without controls Medium	Without controls High	Increased risk. New TMA permit schemes will be introduced in NGN's region from 2019 for remaining Local Authorities, who under financial pressure may also seek to increase revenues generally though increased streetworks charges. Lane Rental may also be introduced.
	With controls Low	With controls Low	With controls Low	
Mitigation through regulatory framework?	No. Re-openers proposed for efficient costs. General increase in streetworks costs to be managed by NGN.			



Real price effects (RPE) exceed business plan forecasts				
Control	Likelihood	Consequence	Risk rating	Change from RIIO-1
Efficient procurement and management of costs and other efficiency savings.	Without controls High	Without controls High	Without controls High	Potentially increased risk. Brexit may lead to increased economic volatility and greater potential for prices to rise above inflation in RIIO-2.
	With controls Medium	With controls Medium	With controls Medium	
Mitigation through regulatory framework?	Yes. The allowances will be indexed for justified RPEs though this may be on an industry mix not specific to NGNs cost base. NGN will manage this risk.			

Impact of Smart Meter rollout has a significant cost and operational impact on NGN				
Control	Likelihood	Consequence	Risk rating	Change from RIIO-1
Focused strategy and approach to target resources around supplier rollout of smart meters as efficiently as possible.	Without controls Medium	Without controls Medium	Without controls Medium	Unchanged. Smart meter rollout has been mandated on suppliers. The programme has consistently run late and will now extend into RIIO-2 and may spike and cause operational impacts to hit future deadlines.
	With controls Low	With controls Low	With controls Low	
Mitigation through regulatory framework?	No. To date we have seen limited impacts as the programme has been slow and well behind target. Other Networks have seen more severe impacts when programmes have been ramped up in a particular geography. Hence there remains significant uncertainty around the actual costs of this programme over the period. We have based our costs in the business plan on the current impact only. However periods of sustained workload increases can cause significant cost spikes. Our emergency and repair activities cost c£25m p.a. on average. A 5% cost spike would increase costs by £1.25m, the minimum threshold we would set for an uncertainty mechanism (0.5% of Totex). We have seen equivalent increases recently – in 2017/18 as a result of the Beast from the East weather impact – and in 2018/19 due the extreme warm weather over the summer. These events could occur concurrently with a smart meter impact, providing greater risk.			

Exceptional operating events (e.g. extreme winter weather conditions or major supply interruption) lead to major operational failure and significant additional costs

Control	Likelihood	Consequence	Risk rating	Change from RIIO-1
Effective management of emergency and repairs resources and efficient call off contracts.	Without controls Medium	Without controls High	Without controls Medium	Increased risk. There is a growing consensus that global warming is driving the extreme weather events seen more recently, including flooding which has severely impacted some of our bridge overcrossings, and hot weather which has caused ground heave and pipe fracturing. In addition the winters seen in the early part of RIIO-1 have been mild, but the winter of 2017 and the 'Beast from the East' impact was significant if short.
	With controls Low	With controls Low	With controls Low	
Mitigation through regulatory framework?	No, NGN has based its plan on the basis of a more typical winter with additional contingency measures based on our learning from December 2010 extreme weather events. NGN would be exposed to additional risk in the event of extreme winter weather conditions and/or large scale supply incidents on the network. We now have in place a 'severe weather' plan.			

Full statutory remediation of NGN owned all contaminated land is required

Control	Likelihood	Consequence	Risk rating	Change from RIIO-1
Proactive approach to monitor and inspect contaminated sites and engage with authorities to manage environmental risk without remediation.	Without controls Medium	Without controls High	Without controls Medium	Increased risk. Authorities are increasing the pressure to remediate sites.
	With controls Low	With controls Low	With controls Low	
Mitigation through regulatory framework?	Yes. Remediation costs of £4.5m are included as part of this plan, NGN will manage the risk of the any potential additional costs.			

NG NTS is unable to meet NGN's NTS exit capacity requirements throughout RIIO-GD1

Control	Likelihood	Consequence	Risk rating	Change from RIIO-1
Continued engagement with NG NTS and exchange of planning information.	Without controls Medium	Without controls Very high	Without controls Very high	Increased risk. NG NTS have highlighted the increasing diversity of generator capacity and peaking plant impacts on both transmission and distribution, which potentially limits the capacity in our network.
	With controls Medium	With controls High	With controls High	
Mitigation through regulatory framework?	No. NGN is managing this risk throughout RIIO- 2.			

Negative RPI causes reduction in allowed revenues whilst costs do not reduce

Control	Likelihood	Consequence	Risk rating	Change from RIIO-1
None, this is an external factor arising from the methodology used to set revenues. It is the role of equity to carry such risks.	Without controls Medium	Without controls High	Without controls Medium	No change. This risk has always existed and materialised in 2009 when negative RPI was experienced. Equity holders saw significant reduction in returns.
	With controls Medium	With controls High	With controls Medium	
Mitigation through regulatory framework?	No. This is a risk NGN will bear.			



Significant IT outages compromise the ability to deliver our services to expected standards for any length of time				
Control	Likelihood	Consequence	Risk rating	Change from RIIO-1
IT strategy, policies and procedures, back up, contingency plans and security processes are in place to reduce risk and minimize any impact	Without controls High	Without controls Medium	Without controls High	Many of the increased standards and targets in our plan increasingly rely on technology. Our IT strategy outlined in our business plan has looked to manage this risk by insourcing appropriate capabilities whilst making best use of external specialist resource.
	With controls Low	With controls Low	With controls Low	
Mitigation through regulatory framework?	No. This is a risk NGN will bear.			

Cyber security and data breaches lead to significant fines and reputational impacts				
Control	Likelihood	Consequence	Risk rating	Change from RIIO-1
Effect introduction of GDPR processes and procedures. Our NIS Improvement plan and general IT strategy to adopt best practice and maximize the use of specialist services.	Without controls High	Without controls Medium	Without controls High	Increased external risk. Our strategy outlined in our business plan looks to manage this risk by insourcing appropriate capabilities whilst making best use of external specialist resource.
	With controls Low	With controls Low	With controls Low	
Mitigation through regulatory framework?	Yes. Requirement to produce strategies for the Business Plan and increased funding contained within the plan to support these activities.			

Significant investment is required as a result of the HS2 and rail electrification projects during RIIO-2				
Control	Likelihood	Consequence	Risk rating	Change from RIIO-1
Continued engagement with the relevant organizations and exchange of planning information.	Without controls High	Without controls High	Without controls High	These emerging projects are likely to impact RIIO-2, and may well be fully funded by NGN due to the existing legal framework surrounding 'lift and shift' arrangements for rail upgrades
	With controls Medium	With controls Medium	With controls Medium	
Mitigation through regulatory framework?	Yes. Use of Price Control Deliverables and Re-openers to ensure funding is available only if required			

Ability to deliver 2,000 or more fuel poor connections during RIIO-2				
Control	Likelihood	Consequence	Risk rating	Change from RIIO-1
Continued engagement with decision makers on qualification criteria, and with expert 3 <sup>rd</sup> parties to generate leads	Without controls Medium	Without controls Medium	Without controls Medium	Higher risk. Qualification criteria have changed during RIIO-1 reducing the available pool of potential customers. Potential change away from gas as a preferred option
	With controls Medium	With controls Medium	With controls Medium	
Mitigation through regulatory framework?	Yes. Use of a minimum 1,000 target and volume driver within the framework to fund our ambition to deliver increased workload .			

Legislation related to streetworks excavation disposal is imposed increasing the operational costs associated with hazardous waste disposal				
Control	Likelihood	Consequence	Risk rating	Change from RIIO-1
Continued engagement with the Environmental Agency through Streetworks UK to review and agree the exact requirements	Without controls Medium	Without controls Medium	Without controls Medium	Higher risk. The legislation currently exists but Regulatory Position Statement 211 gave utilities exemptions until January 2019 – with a subsequent temporary extension to April 2020 – to give the industry time to come up with alternative approaches that could satisfy the Environmental agency with a lower impact.
	With controls Medium	With controls Medium	With controls Medium	
Mitigation through regulatory framework?	Yes. Include a Reopener so that efficiently incurred costs can be recovered. No minimum threshold as this is a fundamental change outside of the networks direct control, and cannot be currently costed accurately as exact parameters and approach unknown			

### 3. Uncertainty mechanisms for RIIO-GD1

In some circumstances it is appropriate for risks to be shared between NGN and consumers. In a number of cases Ofgem has already recognised this and introduced mechanisms in the current price control and have committed to others for RIIO-2. The table below summarises all of Ofgem's proposed Uncertainty Mechanisms for RIIO-2 and compares them to our proposed mechanisms. There are seven differences highlighted in bold. These are considered further below.

Name	Ofgem	Northern Gas Networks
<b>Non Controllable costs</b> – licence fee, business rates, pension deficit, third party damage and water ingress, theft of gas, share of xoserve costs, miscellaneous pass through	Pass Through	Pass Through
<b>Inflation of RAV and allowed Return</b>	Indexation	Indexation
<b>Cost of Debt</b>	Indexation	Indexation
<b>Cost of Equity</b>	Indexation	Indexation
<b>Real Price Effects</b>	Indexation	Indexation
<b>Physical security</b>	Re-opener, and; Baseline allowance	Re-opener, and; Baseline allowance
<b>Cyber resilience</b>	Re-opener, and; Use it or lose it allowance	Re-opener, and; Use it or lose it allowance
<b>Tax Liability allowance</b>	Re-opener	Re-opener
<b>Pensions (established deficit)</b>	Re-opener	Re-opener
<b>Heat Policy</b>	Re-opener	Re-opener
<b>Whole Systems 'Coordinated Adj. Mechanism'</b>	Re-opener	Re-opener
<b>Repex – HSE policy changes</b>	Re-opener	Re-opener
<b>Repex – Tier 2a</b>	Volume driver	Volume driver
<b>Repex Mains – Workload and mix</b>	Price control deliverable, NARMS	Price control deliverable, NARMS
<b>Fuel Poor Network Extension Scheme</b>	Re-opener	Re-opener, and; Volume Driver
<b>Smart metering roll out costs</b>	GDN proposal	Re-opener
<b>Streetworks</b>	GDN proposal	Re-opener
<b>Streetworks excavation disposal</b>	-	Re-opener
<b>Large load connections</b>	-	Re-opener
<b>High speed rail</b>	-	Re-opener
<b>Trans-pennine rail electrification</b>	-	Re-opener, and; Use it or lose it allowance

## Fuel Poor Network Extension Scheme

<b>Issue</b>	<b>Information</b>
What is the issue / risk that the proposed mechanism addresses?	The criteria that determines whether a potential customer is eligible for a fuel poor connection has changed making it more difficult for customers to qualify, in particular for large schemes which can largely drive workload. This means it is more challenging to deliver the overall targeted workload.
Where does the ownership of risk lie in relation to the uncertainty?	If a target is agreed that is unachievable the reputational risk of not meeting the targeted workload lies with the network. If it leads to reduced costs as less work is done, and there is a fixed allowance, the reduced cost would be shared under the sharing mechanism between the network and the customers.
What is the materiality of the issue?	Our base target is 1,000 connections p.a. with a stretch target of 2,000. This is an ambitious target and reflects our support for providing fuel poor connections, despite the increased challenge of delivery. Each connection costs in the region of £2k, so an extra 1,000 connections would cost c£2m
Frequency and probability of the issue over the price control period?	If the criteria remains the same this is an ongoing challenge throughout the price control.
What is the proposed mechanism?	To have a reopener for any changes to the scheme. To have a base allowance for 1,000 connections p.a. which is our minimum target, with a volume driver and allowed unit cost which would fund any over delivery of this target. This should be uncapped but please note our stretch target is to deliver 2,000 connections p.a. The base allowance should be set to fund 1,000 connections, with the allowance reset annually on an ex post basis via the annual iteration process to reflect the actual number of connections completed
What are the justifications for the mechanism?	To incentive a more ambitious delivery programme, but to ensure customers only fund those connections actually delivered.
What are the drawbacks of the proposed mechanism?	The minimum target of 1,000 may not be considered ambitious enough
Can the drawbacks be reduced?	Only through resetting the eligibility criteria
Explanation of how the mechanism delivers value for money whilst protecting the ability to finance efficient delivery?	The volume driver unit cost would be benchmarked and the volume driver itself ensures value for money
Treatment in the Business Plan Data Templates?	Our BPDT only includes costs and volumes for the 1,000 minimum target

## Smart Metering Roll Out Costs

<b>Issue</b>	<b>Information</b>
What is the issue / risk that the proposed mechanism addresses?	When smart meters are installed it can lead to a knock on call out for the network if for instance the Emergency Control Valve is inoperable. If there is a significant spike in workload this can have significant cost impacts, in particular for Emergency costs but also potentially for Repair. The smart metering installation programme is behind target and will now run into RIIO-2. There is a risk very high volumes are carried out over a short period to hit a target.
Where does the ownership of	The networks are responsible for delivering the work but

risk lie in relation to the uncertainty?	any cost impact would be shared between the customers and the network under the expected sharing mechanism.
What is the materiality of the issue?	<p>This is unknown. However periods of sustained workload increases can cause significant cost spikes. Our emergency and repair activities cost c£25m p.a. on average. A 5% cost spike would increase costs by £1.25m across emergency and repair, the minimum threshold we would set for an uncertainty mechanism (0.5% of Totex). We have seen equivalent increases recently – in 2017/18 as a result of the short term Beast from the East weather impact – and in 2018/19 due to the extreme warm weather over the summer. These events could occur concurrently with a smart meter impact, providing greater risk.</p> <p>We have seen minimal impact in our network so far which we have managed but at least one other networks considered operating the reopener in RIIO-1 due to significant workload spikes in particular areas. The exact impact would depend on locality and volume.</p>
Frequency and probability of the issue over the price control period?	This is unknown and is driven entirely by the Suppliers workload programmes which have already moved several times. We have mitigated the issue during RIIO-1 by working closely with Suppliers to understand and influence their work programmes and operating processes. Short term pressures in RIIO-2 could minimize any mitigations we have in place.
What is the proposed mechanism?	A Reopener to allow for the networks to claim for efficiently incurred costs as a result of any material spikes in costs and workload. We would set the minimum threshold as 0.5% of Totex, c£1.25m per annum.
What are the justifications for the mechanism?	Any lower variances would be managed by the network, but if there is a significant impact justified costs could be recovered.
What are the drawbacks of the proposed mechanism?	Justifying costs after the event is not straightforward.
Can the drawbacks be reduced?	Appropriate analysis and supporting data would need to be provided
Explanation of how the mechanism delivers value for money whilst protecting the ability to finance efficient delivery?	Any allowance adjustment would only be made if a workload spike is seen and can be traced with appropriate supporting evidence to smart metering.
Treatment in the Business Plan Data Templates?	The costs in the BPDT do not include any uplift for smart metering cost impacts.

## **Streetworks**

<b>Issue</b>	<b>Information</b>
What is the issue / risk that the proposed mechanism addresses?	Only c40% of Local Authorities currently operate streetworks schemes in our network. We expect the remainder to start schemes within the next 18 months, with all to be in place for RIIO-2. We currently spend c£2m on streetworks in our network. All schemes follow the same basic principles but these can be applied in different ways to different levels of vigour, leading to costs in different areas varying significantly. Therefore forecasting any impact is difficult. In addition we currently have no lane rental schemes in our area. These may also be introduced.
Where does the ownership of risk lie in relation to the uncertainty?	Forecasting the impact is difficult so the risk lies in getting this wrong, which could impact the network and the customer. Any impact would be shared via the sharing mechanism.
What is the materiality of the	We currently spend c£2m on streetworks p.a, our analysis

issue?	of the current schemes working in our network extrapolated up suggest this could at least double to £4m and potentially increase further depending on how schemes are applied and also whether lane rental is introduced. We have no experience of lane rental costs and efficiency impacts.
Frequency and probability of the issue over the price control period?	We expect all local authorities to operate schemes by the start of RII0-2.
What is the proposed mechanism?	A Reopener to allow for the networks to claim for efficiently incurred costs as a result of increased streetworks schemes, including lane rental. We would set the minimum threshold as 0.5% of Totex, c£1.25m per annum.
What are the justifications for the mechanism?	To protect both the networks and customers from forecasting errors whilst allowing the networks to recover appropriate costs.
What are the drawbacks of the proposed mechanism?	Justifying costs after the event is not straightforward.
Can the drawbacks be reduced?	Appropriate analysis and supporting data would need to be provided
Explanation of how the mechanism delivers value for money whilst protecting the ability to finance efficient delivery?	Any allowance adjustment would only be made based on actual costs seen and can be traced with appropriate supporting evidence to new streetworks schemes.
Treatment in the Business Plan Data Templates?	Our BPDs costs are based on the current schemes only

### **Streetworks excavation disposal**

<b>Issue</b>	<b>Information</b>
What is the issue / risk that the proposed mechanism addresses?	Streetworks Legislation exists around the safe disposal of hazardous waste encountered when we dig in the road. Regulatory Position Statement 211 gave utilities exemptions until January 2019 from this legislation – and a subsequent temporary extension now applies until April 2020. This extension has been put in place to give the utility industry time to come up with some alternative approaches to that laid out in the Legislation that could satisfy the requirements with lower operational and cost impacts. The Environment Agency will ultimately make the decision.
Where does the ownership of risk lie in relation to the uncertainty?	The ownership lies with the network and the Environment Agency to find a mutually acceptable solution. Under any solution costs are likely to go up
What is the materiality of the issue?	Trials and analysis have been carried out through Streetworks UK to understand the materiality of the issue. Early analysis shows costs could increase by between £0.5m and £4m p.a.
Frequency and probability of the issue over the price control period?	A final position should be known at some point in 2020.
What is the proposed mechanism?	A Reopener to allow for the networks to claim for efficiently incurred costs as a result of the legislative change. Given the materiality of the scheme, and the likely costs, which are not included in our plan, there should be no minimum threshold.
What are the justifications for the mechanism?	To protect both the networks and customers from forecasting errors whilst allowing the networks to recover appropriate costs.
What are the drawbacks of the proposed mechanism?	Justifying costs after the event is not straightforward.
Can the drawbacks be reduced?	Appropriate analysis and supporting data would need to be provided



Explanation of how the mechanism delivers value for money whilst protecting the ability to finance efficient delivery?	Any allowance adjustment would only be made based on Ofgem accepted forecast costs or actual costs where possible.
Treatment in the Business Plan Data Templates?	Our BPDT costs do not include any extra costs for this issue.

## **Large Load Connections**

<b>Issue</b>	<b>Information</b>
What is the issue / risk that the proposed mechanism addresses?	There is a risk that there is a significant increase in large load connections, in particular in association with peaking plant electricity generation. In the last 2 years we have seen significant increases in enquiries and some projects funded by the network.
Where does the ownership of risk lie in relation to the uncertainty?	Forecasting the impact is difficult so the risk lies in getting this wrong, which could impact the network or the customer equally. Any impact would be shared under the sharing mechanism.
What is the materiality of the issue?	We currently spend c£1m in this area. Costs have been significantly higher historically, and the other networks have already seen impacts in the millions. The exact impact is unknown.
Frequency and probability of the issue over the price control period?	We expect this to be an increasing risk but cannot effectively assess this, hence the need for a mechanism.
What is the proposed mechanism?	A Reopener to allow for the networks to claim for efficiently incurred costs. We would set the minimum threshold as 0.5% of Totex, c£1.25m per annum over the £1m we have included in our forecasts.
What are the justifications for the mechanism?	To protect both the networks and customers from forecasting errors whilst allowing the networks to recover appropriate costs.
What are the drawbacks of the proposed mechanism?	Justifying costs after the event is not straightforward.
Can the drawbacks be reduced?	Appropriate analysis and supporting data would need to be provided
Explanation of how the mechanism delivers value for money whilst protecting the ability to finance efficient delivery?	Any allowance adjustment would only be made based on actual costs seen and can be traced with appropriate supporting evidence.
Treatment in the Business Plan Data Templates?	Our BPDTs costs are based on the current run rate of projects only

## **High Speed Rail**

<b>Issue</b>	<b>Information</b>
What is the issue / risk that the proposed mechanism addresses?	The high speed rail project will require significant changes to the gas network in particular in Leeds where one the stations will be. The impact, timing and funding are unknown at this point, but are likely to impact during RIIO-2
Where does the ownership of risk lie in relation to the uncertainty?	Given the level of uncertainty forecasting the impact is difficult so the risk lies in getting this wrong, which could impact the network or the customer equally. Any impact would be shared under the sharing mechanism.
What is the materiality of the issue?	This is not known for certain but could be in the region of c£30m.
Frequency and probability of the issue over the price control period?	We expect this to impact during RIIO-2 but how much and when by is very unclear, as is responsibility for funding.

What is the proposed mechanism?	A Reopener to allow for the networks to claim for efficiently incurred costs. Given the materiality of the scheme, and the likely costs, which are not included in our plan, there should be no minimum threshold.
What are the justifications for the mechanism?	To protect both the networks and customers from forecasting errors whilst allowing the networks to recover appropriate costs.
What are the drawbacks of the proposed mechanism?	Justifying costs after the event is not straightforward.
Can the drawbacks be reduced?	Appropriate analysis and supporting data would need to be provided
Explanation of how the mechanism delivers value for money whilst protecting the ability to finance efficient delivery?	Any allowance adjustment would only be made based on actual costs seen and can be traced with appropriate supporting evidence.
Treatment in the Business Plan Data Templates?	Our BPDTs exclude any costs related to this project

### **Transpennine rail electrification**

<b>Issue</b>	<b>Information</b>
What is the issue / risk that the proposed mechanism addresses?	The trans pennine rail electrification project will require significant changes to the gas network along its route. The impact, timing and funding are unknown at this point, but are likely to impact during RIIO-2
Where does the ownership of risk lie in relation to the uncertainty?	Given the level of uncertainty forecasting the impact is difficult so the risk lies in getting this wrong, which could impact the network or the customer equally. Any impact would be shared under the sharing mechanism.
What is the materiality of the issue?	We expect this to be in the region of £20m, but timing and scope are still very uncertain, and has changed materially in late 2019.
Frequency and probability of the issue over the price control period?	We expect this to impact during RIIO-2 but how much and when by is unclear, as is responsibility for funding.
What is the proposed mechanism?	A use it or lose it allowance in the form of a Price Control Deliverable. We have included our latest forecast within our submission based on the latest plans, costs and expected profile. Setting a target rather than providing a pass through mechanism promotes efficient delivery. However if the scope varies materially and causes forecast costs to move by more than 10% either way we would look to reforecast the estimated costs, justify them to Ofgem, and update the allowance through the annual iteration process.
What are the justifications for the mechanism?	To ensure there is appropriate funding in place up front to allow the project to go ahead as expected, but with the option to remove it if it is cancelled or delayed
What are the drawbacks of the proposed mechanism?	The final project costing may vary if the nature and scope changes. The network will take the risk for any minor variances, with any significant variances to be considered under a re-opener
Can the drawbacks be reduced?	No
Explanation of how the mechanism delivers value for money whilst protecting the ability to finance efficient delivery?	The allowance can be removed or adjusted if the project is canceled or changed fundamentally.
Treatment in the Business Plan Data Templates?	Our BPDTs include our current expected costs for this project