



**Annex**

**A3.02 Uncertainty Mechanisms**

**December 2019**

As a part of the NGGT Business Plan Submission

**nationalgrid**

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## Executive summary

Uncertainty mechanisms (UMs) exist to allow price control arrangements to respond to change. They protect both end consumers and licencees from unforecastable risk or changes in circumstances.

Ofgem have proposed a number of uncertainty mechanisms within their sector specific decision<sup>1</sup>. Some of these are continuation of RIIO-1 UMs for gas transmission and some are cross sector. In addition to Ofgem's proposed uncertainty mechanisms set out in the May decision document, we have proposed a number of additional new bespoke uncertainty mechanisms.

Ofgem's business planning guidance indicates that new bespoke uncertainty mechanisms will be assessed against the following criteria<sup>2</sup>:

- Why is this uncertainty mechanism important?
- Where does the ownership of risk lie?
- What is the materiality?
- What is the frequency and probability of the issue over the price control period?
- Our uncertainty mechanism proposal
- What are the justifications for the mechanism?
- What are the drawbacks from the mechanism, and can they be reduced?
- How does the proposed uncertainty mechanism ultimately deliver value for money while protecting the ability to finance efficient delivery?

We have assessed all the reopener uncertainty mechanisms against these categories for completeness in our proposals in this annex.

**Table A3.02.01 overview of proposed uncertainty mechanisms**

UM name	Type	UM summary	Trigger
1. <b>Cyber resilience</b>	Reopener	Provides a mechanism for material adjustment of allowed revenues if the required scope of our Cyber Resilience Plan (Operational Technology) and/or Business IT Security Plan change due to circumstances outside our control	<b>Two reopeners:</b> start of period and mid period  <b>Trigger threshold:</b> 1% base revenues
2. <b>Physical security</b>	Reopener	Provides a mechanism for material adjustment of allowed revenues if enhanced physical security requirements during RIIO-2 change due to circumstances outside our control	<b>Two reopeners:</b> mid period and end of period  <b>Trigger threshold:</b> 1% base revenues
3. <b>Incremental capacity</b>	Reopener	Potential costs associated with release of incremental capacity are unknown. This will enable delivery of more capacity when underpinned by customer commitment and informed by robust options analysis.	<b>Trigger point:</b> Case by case basis  <b>Trigger threshold:</b> 1% base revenues
4. <b>Pipeline diversions</b>	Reopener	Allows recovery of pipeline diversion costs to the extent that they cannot be reasonably	<b>Trigger point:</b> Annual process

<sup>1</sup> [https://www.ofgem.gov.uk/system/files/docs/2019/05/riio-2\\_sector\\_specific\\_methodology\\_decision\\_core\\_30.5.19.pdf](https://www.ofgem.gov.uk/system/files/docs/2019/05/riio-2_sector_specific_methodology_decision_core_30.5.19.pdf)

<sup>2</sup> [https://www.ofgem.gov.uk/system/files/docs/2019/06/riio-2\\_business\\_plans\\_guidance\\_june\\_2019\\_published.pdf](https://www.ofgem.gov.uk/system/files/docs/2019/06/riio-2_business_plans_guidance_june_2019_published.pdf)

UM name	Type	UM summary	Trigger
		recovered from parties requesting the diversion.	<b>Trigger threshold:</b> 1% base revenues
5. Compressor emissions King's Lynn	- Reopener	Ensure costs of post-FEED final solutions included in baselines. Set new Price Control Deliverable for remainder of project.	<b>Trigger point:</b> Year 2 (end of FEED) <b>Decision required:</b> June 2023
6. Compressor emissions Peterborough	- Reopener	Ensure costs of post-FEED final solutions included in baselines. Set new Price Control Deliverable for remainder of project.	<b>Trigger point:</b> Year 4 (end of FEED) <b>Decision required:</b> June 2025
7. St Fergus site	Reopener	Ensure costs of post-FEED final solutions included in baselines. Set new Price Control Deliverable for remainder of project.	<b>Trigger point:</b> Year 2 (end of FEED) <b>Decision required:</b> March 2023
8. Quarry and loss of development	Reopener	Reopener to adjust baselines relating to unpredictable loss of development and mineralisation costs.	<b>Trigger point:</b> End of year 2 <b>Trigger threshold:</b> 1% base revenues True up at end of period.
9. Net zero	Reopener	Ensure we are able to respond quickly to work towards net zero goals.	<b>Trigger point:</b> End of year 2 <b>Trigger threshold:</b> 1% base revenues
10. Whole systems	Coordinated adjustment mechanism	To be defined on a cross-sector basis by Ofgem.	To be defined.
11. Bacton terminal site redevelopment (New bespoke)	Reopener	Reopener to be used to adjust funding allowances for the terminal redevelopment, once the FEED design is confirmed and there is a more accurate view of the costs and set a new PCD.	<b>Trigger point:</b> Year 2 (end of FEED) <b>Decision required:</b> September 2022
12. King's Lynn Subsidence	Reopener	Reopener to be used to adjust the funding allowances once the final design is confirmed and there is a more accurate view of costs and set a new PCD.	<b>Trigger point:</b> Year 2 (end of FEED) <b>Decision required:</b> September 2022
13. Policing associated Counter-Terrorism 2008	cost with Act	Pass through	Comply with our legislative requirements (the Counter-Terrorism Act 2008) Annual process to determine pass-through costs

UM name	Type	UM summary	Trigger
14. Conveyance of gas independent systems	Pass through	Costs relate to government policy and cannot be controlled by NGGT, therefore treated as pass through.	Annual process to determine pass-through costs
15. Gas transporter's share of Xoserve costs	Pass through	This only relate to our share of costs for central data service provider (CDSP) services.	Annual process to determine pass-through costs

### Updates for the December draft

Since the publication of our July and October business plan we have amended our proposals relating to compressor emissions compliance UMs. We have removed our UM proposal on “new threat vector”.

We are also proposing new UMs on net zero, Bacton terminal site redevelopment and King’s Lynn subsidence.

We have included in this recent version additional detail on timings for proposed reopeners and proposed triggers and thresholds.

## UM Overview

### What are UMs and how do they work?

Uncertainty mechanisms (UMs) exist to allow price control arrangements to respond to change. They protect both end consumers and licencees from unforecastable risk or changes in circumstances.

Ofgem have proposed a number of uncertainty mechanisms within their sector specific decision<sup>3</sup>. Some of these are continuation of RIIO-1 UMs for gas transmission and some are cross sector. In addition to Ofgem's proposed uncertainty mechanisms set out in the May decision document, we have proposed a number of additional new bespoke uncertainty mechanisms.

### UM coverage for gas transmission

We have proposed UMs to cover key areas of uncertainty. £xm of our proposed funding is covered by UMs. This is an indication only at this stage as values could increase or decrease over the price control period (given that it relates to uncertainty).

As well as in this annex our uncertainty mechanisms and their associated values are summarised in the snapshot table (Annex A3.04).

In many cases, our proposed UMs are associated with Price Control Deliverables (PCDs), a summary of which can be found in Annex A3.01.

### What types of UMs are we proposing?

For gas transmission our proposed UMs are described in four different ways. This is because of how they are proposed to interact with baseline allowances and uncertainty. The four types are summarised below along with an indication of which UMs fall into each category.

#### **UM – baseline variable**

Baseline funding requested as part of allowances.

Where a PCD is defined (e.g. Bacton and King's Lynn), funding in baseline to deliver whole project. At set trigger point (reopener) cost allowances for PCD adjusted and new PCD set if applicable.

UM11 – Bacton terminal redevelopment

UM12 – King's Lynn subsidence

#### **UM – non baseline**

Funding for UM not included in baseline funding request

At set trigger point (e.g. reopener) project parameters and baseline funding agreed.

If an associated PCD, a new PCD will be created for delivery of rest of project or existing PCD adjusted.

UM1 – Cyber resilience

UM2 – Physical security

UM3 – Incremental capacity

UM4 – Pipeline diversion costs

UM5 – Compressor emissions King's Lynn

UM6 – Compressor emissions Peterborough

UM7 – St Fergus site

UM8 – Whole system

UM9 – Quarry and loss of development

UM10 – Net zero

#### **UM – pass through**

Pass through costs as defined in Ofgem's sector methodology decision

UM11 – Gas transporter's share of Xoserve costs

UM12 – Policing costs

UM13- Conveyance of gas for independent systems

<sup>3</sup> [https://www.ofgem.gov.uk/system/files/docs/2019/05/riio-2\\_sector\\_specific\\_methodology\\_decision\\_-\\_core\\_30.5.19.pdf](https://www.ofgem.gov.uk/system/files/docs/2019/05/riio-2_sector_specific_methodology_decision_-_core_30.5.19.pdf)

### **UM – finance**

Financial mechanisms such as indexes to adjust our allowances accordingly.

Not included in this annex – please see finance annex for further information

Indexation of RAV and allowed return

Tax liability allowance

Pension scheme established deficit

Cost of debt indexation

Cost of equity indexation

For information on our specific PCD proposals please see Annex A3.01.

Ofgem’s business planning guidance indicates that new bespoke uncertainty mechanisms will be assessed against the following criteria<sup>4</sup>. Our summary of UMs in the following pages set out our proposals against these categories.

- Why is this uncertainty mechanism important?
- Where does the ownership of risk lie?
- What is the materiality?
- What is the frequency and probability of the issue over the price control period?
- Our uncertainty mechanism proposal
- What are the justifications for the mechanism?
- What are the drawbacks from the mechanism, and can they be reduced?
- How does the proposed uncertainty mechanism ultimately deliver value for money while protecting the ability to finance efficient delivery?

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<sup>4</sup> [https://www.ofgem.gov.uk/system/files/docs/2019/06/rrio-2\\_business\\_plans\\_guidance\\_june\\_2019\\_-\\_published.pdf](https://www.ofgem.gov.uk/system/files/docs/2019/06/rrio-2_business_plans_guidance_june_2019_-_published.pdf)



## UM descriptions

### UM 1 - Cyber resilience reopener

<b>Business Plan (BP) chapter</b>	<b>Chapter 15</b> Linked to PCD 1 and PCD 2 in annex A3.01
<b>Ofgem priority area</b>	Maintain a safe and resilient network
<b>Consumer priority</b>	I want to use energy when and where I want it I want you to facilitate delivery of a sustainable energy system
<b>Summary</b>	The full scope and cost of cyber resilience work that is in consumer interests in RIIO-2 is uncertain and may change at any time in the lead-up or during the RIIO-2 period itself. Unless there is a mechanism to cope with this change there is a risk that we could deliver the wrong outputs (too much work/too little work/wrong prioritisation) or receive an inappropriate cost allowance (overfunded or underfunded).
<b>Source of UM &amp; sector coverage</b>	New cross-sector UM proposed by Ofgem in sector specific methodology decision.

#### Why is this uncertainty mechanism important?

The full scope and cost of cyber resilience work that is in consumer interests in RIIO-2 is uncertain and may change in the lead-up or during the RIIO-2 period itself. The cyber threat landscape is complex and is changing rapidly in terms of the frequency and sophistication of attacks. Unless there is a mechanism to cope with this change there is a risk that we could deliver the wrong outputs (too much work / too little work / wrong prioritisation) or receive an inappropriate cost allowance (overfunded or underfunded).

This is an industry-wide issue affecting all network companies. However, the impact is particularly significant for NGGT because of the extent of our CNI sites/processes and our high hazard safety critical processes.

This UM is proposed to cater for the following types of uncertainties:

- changes in the required scope of the Cyber Resilience Plan and/or Business IT Security Plan and/or changes in the associated outputs recorded in confidential PCDs
- changes in scope in response to actual cyber security events
- changes in the level of threat
- changes in required response to the threat e.g. changes in government policy or guidelines (NIS Regulations, NCSC guidelines, HSE guidelines)
- changes in the assessment of criticality of sites/assets/processes
- changes in technology or supply chain capability.

#### Where does the ownership of risk lie?

The consequences of misalignment between required scope, outputs and cost allowances could be to the advantage or detriment of either network company shareholders or consumers. Moreover, the government's national security objectives could be compromised.

Correct management of the risks requires collaborative working between network company and the NIS Competent Authority because the network company owns the at-risk CNI and safety critical processes, and the government determines national security policy. Government policy in this area is enacted through the Network and Information Systems (NIS) Regulations 2018 enforced by the NIS Competent Authority and through the expertise of the National Cyber Security Centre (NCSC).

#### What is the materiality?

This UM is proposed to operate over the cyber resilience part of our plan, comprising both the Cyber Resilience Plan (Operational Technology) and the Business IT Security Plan. Our forecast combined



totex baseline spend in the RIIO-2 period for these plans is in the order of £461m. This represents our known work to meet our current understanding of government requirements. For comparison, in the RIIO-1 period, the Enhanced Security reopener adjusted NGGT allowances by a total of £48.3m (2009/10 prices) totex over the eight-year period.

### What is the frequency and probability of the issue over the price control period?

We consider it highly likely that the reopener will be called upon. This is for two key reasons:

- the threat landscape is evolving rapidly in terms of the complexity and sophistication of cyber attacks
- we will need to adapt our response and scope of work accordingly, including to

We propose that there should be a reopener at both the beginning of RIIO-2 and at the mid-period.

### Our uncertainty mechanism proposal

We propose baseline funding plus Totex Incentive Mechanism for the baseline element of both our Cyber Resilience Plan and our Business IT Security Plan. This is because our scope is well defined with clear, ring-fenced outputs that we propose are recorded in confidential PCDs. Where we recognise a need for a RIIO-2 activity, but the scope and cost is not yet sufficiently well defined for inclusion in baseline allowances, we have provided an estimate of uncertain costs. This is for indication only. We would use the reopener windows to bring forward final proposals for the relevant scope and costs as and when those details are firmed up.

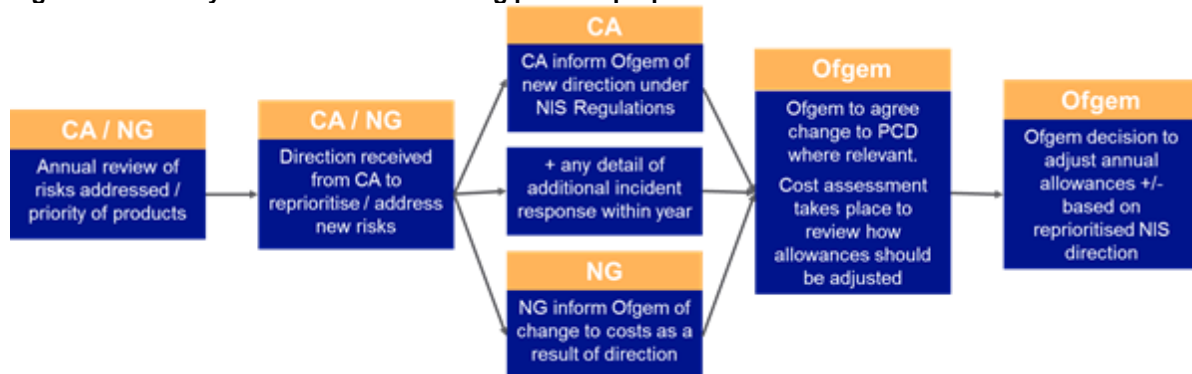
We have proposed confidential ring-fenced PCDs for our Cyber Resilience Plan and our Business IT Security Plan. We propose the operation of the PCDs should provide a level of automation in the adjustment of RIIO-2 totex allowances, eg where the actual security level required is determined to be different to the indicative level previously identified, or where pre-specified volumes of work and cost are added/subtracted by agreement with the NIS Competent Authority.

Where the materiality of change is sufficient to trigger the UM then we expect the reopener process would result in changes to our totex allowances and changes to the parameters of the PCDs.

For the avoidance of doubt we propose that the allowances eligible for adjustment through the UM should include both capex and opex and should include both the gas system operator and gas transmission parts of our business. The potentially affected business plan data tables include, but are not limited to, 3.06(a), 3.06(b), 3.09(a) and 3.09(b).

Our concept for monitoring of the cyber resilience PCDs and triggering of the UM process is illustrated in the process flow diagram below:

Figure A3.02.02 cyber resilience monitoring process proposal



### What are the justifications for the mechanism?

The mechanism is justified because this is an evolving area where guidance in relation to needs and required response is continually maturing in particular through deeper engagement with the NIS Competent Authority.

### What are the drawbacks of the mechanism and can they be reduced?

There are no material drawbacks. Ofgem and network companies have experience of a similar reopener mechanisms in RIIO-1. Our proposals for RIIO-2 learn from and can improve upon the RIIO-1 arrangement in the following ways:

- The use of ring-fenced PCDs provides greater clarity of required outputs and facilitates a degree of automation of adjustment to allowances;
- Regularised monitoring and reporting against the PCDs with joint involvement of Ofgem (as the economic regulator) and the NIS Competent Authority (representing government's cyber security interests) should better align the assessment of need with the assessment of cost allowances and the adjustment of regulatory outputs.

### How does the proposed uncertainty mechanism ultimately deliver value for money while protecting the ability to finance efficient delivery?

The UM has positive benefits for consumers because it takes away regulatory uncertainty and leads to a more responsive overall change process. The UM strikes the right balance between providing flexibility to respond to changes in government policy and providing certainty to companies where there is significant change so that they can proceed with delivering the required investments

## UM 2 - Physical security reopener

<b>BP chapter</b>	<b>Chapter 15</b> Linked to PCD2 in annex A3.01
<b>Ofgem priority area</b>	Maintain a safe and resilient network
<b>Consumer priority</b>	I want to use energy where and when I want it I want you to facilitate delivery of a sustainable energy system
<b>Summary</b>	The scope and cost of enhanced physical security work that is in consumer interests in RIIO-2 is uncertain and may change at any time in the lead-up or during the RIIO-2 period itself. This UM is proposed as an adjustment mechanism to avoid us being over or underfunded for enhanced physical security works in RIIO-2.
<b>Source of UM &amp; sector coverage</b>	New cross-sector UM proposed by Ofgem in sector specific methodology decision.

### Why is this uncertainty mechanism important?

The full scope and cost of physical security work that is in consumer interests in RIIO-2 is uncertain and may change at any time in the lead-up or during the RIIO-2 period itself. Unless there is a mechanism to cope with this change there is a risk that we could deliver the wrong outputs (too much work/too little work/wrong prioritisation) or receive an inappropriate cost allowance (overfunded or underfunded).

This is an industry-wide issue affecting all network companies. However, the impact is particularly significant for NGGT because of the extent of our CNI sites/processes and our high hazard safety critical processes.

This UM will cater for uncertainties such as these:

- changes in the level of threat
- changes in the required response to the threat e.g. changes in government policy or guidelines including the Physical Security Upgrade Programme (PSUP) guidance, Centre for the Protection of National Infrastructure (CPNI) guidelines or Health and Safety Executive (HSE) requirements
- changes in the assessment of criticality of sites/assets/processes
- changes in technology or supply chain capability.

### **Where does the ownership of risk lie?**

The consequences of misalignment between required scope, outputs and cost allowances could be to the advantage or detriment of either network company shareholders or consumers. Moreover, the government's national security objectives could be compromised.

Correct management of the risks requires collaborative working between network company and government because the network company owns the CNIs and safety critical processes which are at risk, and the government determines national security policy enacted through the department for BEIS and CPNI.

### **What is the materiality?**

This UM is proposed to operate over the PSUP part of our plan where our forecast totex spend across the RIIO-2 period is in the order of £132m. This represents our known work to meet requirements already established by BEIS requirements to accepted security agency standards (e.g. PSUP guidance and CPNI standards). For comparison, in the RIIO-1 period, the PSUP reopener adjusted NGGT allowances by a total of £173.4m (2017/18 prices) totex over the eight year period.

### **What is the frequency and probability of the issue over the price control period?**

By its nature it is difficult to anticipate the probability of a material change in threat, or whether future physical security incidents may lead to a change in government's response. If the level of physical security threat remains as understood today, we think it's unlikely future changes will materially reduce our scope of our work. We support Ofgem's SSMD that there should be a reopener at both the mid-period and end of the price control period to adjust allowed revenues if the UM is triggered.

### **Our uncertainty mechanism proposal**

In line with the regulatory treatment described in Ofgem's SSMD, we propose ex-ante funding plus Totex Incentive Mechanism for the baseline element of our enhanced physical security plan.

We have proposed a ring-fenced Price Control Deliverable (PCD) for the enhanced physical security element of our RIIO-2 plan. We propose the operation of the PCD should provide a level of automation in the adjustment of RIIO-2 totex allowances, eg where pre-specified volumes of work and cost are added/subtracted due to circumstances outside our control.

Where the materiality of change outside our control is sufficient to trigger the UM then we expect the reopener process would result in changes to our totex allowances and changes to the parameters of the PCD.

For the avoidance of doubt we propose that the allowances eligible for adjustment through the UM should include both capex and opex and should include both the gas system operator and gas transmission parts of our business. The potentially affected business plan data tables include, but are not limited to, 2.05 and 3.05.

### What are the justifications for the mechanism?

The mechanism is justified because of the materiality of the possible change which is outside our control. We agree with Ofgem's SSMD assessment that the use of two reopeners strikes the right balance between providing flexibility to respond to changes in government policy and providing certainty to companies where there is significant change so that they can proceed with delivering the required investments.

### What are the drawbacks of the mechanism and can they be reduced?

There are no material drawbacks. Ofgem and network companies have experience of a similar reopener mechanism in RIIO-1. Our proposals for RIIO-2 learn from and can improve upon the RIIO-1 arrangement in the following ways:

- The use of a ring-fenced PCD provides greater clarity of required outputs and facilitates a degree of automation of adjustment to allowances;
- Regularised monitoring and reporting against the PCD with joint involvement of Ofgem (the economic regulator) and BEIS (representing government's security interests) should better align the assessment of need with the assessment of cost allowances and the adjustment of regulatory outputs.

### How does the proposed uncertainty mechanism ultimately deliver value for money while protecting the ability to finance efficient delivery?

The UM has positive benefits for consumers because it takes away regulatory uncertainty. The UM strikes the right balance between providing flexibility to respond to changes in government policy and providing certainty to companies where there is significant change so that they can proceed with delivering the required investments.

### UM 3 - Incremental capacity reopener

<b>BP chapter</b>	<b>Chapter 19</b>
<b>Ofgem priority area</b>	Meet the needs of consumers and network users
<b>Consumer priority</b>	I want to use energy where and when I want it
<b>Source of UM &amp; sector coverage</b>	Gas transmission UM from RIIO-1 with Ofgem proposed revised trigger mechanism (case by case basis)
<b>Summary</b>	Potential costs associated with release of incremental capacity are unknown. This will enable delivery of more capacity when underpinned by customer commitment and informed by robust options analysis.
<b>Triggers</b>	<b>Trigger point:</b> Case by case basis <b>Trigger threshold:</b> 1% base revenues

### Why is this uncertainty mechanism important?

There is a continued need for a mechanism to adjust our remuneration for release of incremental entry and exit capacity. It is appropriate because it is impossible to forecast whether such incremental needs will arise in response to changing customer requirements and, if they do arise, how much work and cost may be involved. The purpose of the mechanism is to adjust allowances in line with efficient costs for delivery of new capacity.

The mechanism for adjusting allowances must harmonise with related processes for release of entry and exit capacity such as the Planning and Advanced Reservation of Capacity (PARCA) process. An

efficient interrelationship between these processes will allow new capacity to be developed in a timely way to satisfy changing energy market requirements. For example, undue delays could frustrate the ability of the market to access the cheapest sources of gas to satisfy UK consumer demand.

### **Where does the ownership of risk lie?**

Under the current RIIO-1 uncertainty mechanism our allowance adjustments are to be determined by reference to the Generic Revenue Driver Methodology and a unit cost library approved by Ofgem. The unit cost library is now out of date and this approach does not capture variations in the cost of carrying out similar work across different projects. For example, pipeline construction costs may be highly dependent on site-specific characteristics such as ground conditions, population density, number of road/rail/river crossings etc. This exposes NGGT and customers to the risk of under or over-funding.

For RIIO-2 we support Ofgem's proposed move to a case by case assessment of allowances to significantly reduce the risks of under or over-funding.

The new process should be time-limited so that it is workable for both customers and NGGT and doesn't introduce delays to the release of new capacity. This process should address the timing and interaction of (i) determination of allowances, (ii) commitment to release incremental capacity, and (iii) financial underwriting that protects NGGT against the costs/risks around pre-planning approval work and long lead-time items.

### **What is the materiality?**

This UM will be invoked on a case-by-case basis when signals are received from users of the National Transmission System for new entry or exit capacity that exceeds the obligated levels of capacity as set out in our licence. It is inherently difficult to predict how or when user requirements may change and the costs that could result.

We are currently working on a customer application that could trigger network reinforcement work that would straddle the RIIO-T1, [REDACTED]. If this scheme progresses it will be the first example of incremental capacity allowance adjustment triggered in the RIIO-1 period.

Before that, the most significant example of customer-triggered network reinforcement was the 2007 development of a new NTS pipeline across south Wales to accommodate Liquefied Natural Gas importation into Milford Haven. That scheme involved capital expenditure of around £1bn.

### **What is the frequency and probability of the issue over the price control period?**

Given that the last time incremental capacity was triggered was 2007, and we so far have one potential project arising in the RIIO-1 period, we do not expect this UM to be invoked often. Nevertheless, there are potential changes to the gas transmission network which could cause the mechanism to be invoked during RIIO-2 - for example, developments associated with shale gas, Liquefied Natural Gas or other new connections.

### **Our uncertainty mechanism proposal**

Ofgem has proposed to revise the existing revenue driver mechanism to create an incremental capacity reopener mechanism. We agree that the move to consider incremental capacity on a case by case basis is a suitable approach. The key changes and characteristics proposed for the new mechanism are as follows:

- adjustment of allowances is triggered by customer signals of demand for new incremental entry or exit capacity
- the generic unit cost method of determining allowances is replaced with case-by-case assessment of efficient costs
- a time-limited process is implemented so that determination of allowances is in step with PARCA and workable for customers and NGGT

- Trigger point: Case by case basis
- Trigger threshold: 1% base revenues

### Related issues

We propose our overriding objective should be to optimise use of the existing network, substituting capacity rather than building new assets. We propose the regulatory governance around the substitution process is simplified so that each individual substitution does not need discrete approval by Ofgem.

We recognise that projects under this area may be subject to competition.

### What are the justifications for the mechanism?

This UM proposal improves on the RIIO-1 reopener by better joining together the assessment of criticality and need with the assessment of cost allowances and the adjustment of regulatory outputs.

### What are the drawbacks of the mechanism and can they be reduced?

The drawback of the existing RIIO-1 mechanism is reliance on a unit cost library over 10 years old which was based on projects completed both in the UK and internationally. A unit costs library can't cover all the possible assets/project specific costs and therefore can't identify risks producing an under or over funding outcome.

The limitations of the unit cost approach can be overcome by moving to a case-by-case assessment of allowances as proposed by Ofgem.

### How does the proposed uncertainty mechanism ultimately deliver value for money while protecting the ability to finance efficient delivery?

The revised UM has positive benefits for consumers because it takes away regulatory uncertainty by improving the predictability that NGGT allowances will be adjusted in line with efficient costs for delivery of new capacity. Provided the process is correctly mapped out, the revised UM should also result in a timely process for customers.

## UM 4 - Pipeline diversion costs

BP chapter	Chapter 19
Ofgem priority area	Meet the needs of consumers and network users
Consumer priority	I want to use energy when and where I want it
Source of UM & sector coverage	Gas transmission UM from RIIO-1 with Ofgem proposed revised trigger mechanism (case by case basis)
Summary	Allows recovery of pipeline diversion costs to the extent that they cannot be reasonably recovered from parties requesting the diversion.
Trigger	Trigger point: Annual process  Trigger threshold: 1% base revenues

### Why is this uncertainty mechanism important?

Pipelines may need to be diverted at the request of a party. We will seek to recover costs relating to these from the relevant party where contracts allow but the UM should address costs that cannot be reasonably recovered as a result of legacy contracts.

This UM is the most efficient way of dealing with a genuinely uncertain situation (and avoids building the risk of these costs into our baseline plan).

### **Where does the ownership of risk lie?**

These pipeline diversion costs are driven by the behaviour of those holding legacy contracts relating to when the pipelines were first installed, and we aren't able to forecast this. Including these unpredictable costs in ex-ante funding would expose us to a risk we aren't able to manage effectively.

### **What is the materiality?**

Pipeline diversion costs could be material if they are not able to be recovered from involved parties due to contractual arrangements.

### **What is the frequency and probability of the issue over the price control period?**

The frequency and probability is unpredictable as these are third-party driven.

### **Our uncertainty mechanism proposal**

Retain reopener to allow for the recovery of pipeline diversion costs to the extent that they cannot be reasonably recovered from parties requesting the diversion.

In implementing the proposed revision, we suggest that experience from RIIO-1 is considered and appropriate licence wording is adopted to ensure that all relevant circumstances giving rise to non-customer funded diversions are captured.

Trigger point: Annual process

Trigger threshold: 1% base revenues

### **What are the justifications for the mechanism?**

Ofgem has said that, given the uncertainty around the need to divert pipelines, it would not be in consumer interests for ex ante funding to be provided for this work. We agree.

### **What are the drawbacks from the mechanism and can they be reduced?**

There are no material drawbacks. Ofgem and network companies have experience of a similar reopener mechanisms in RIIO-1.

### **How does the proposed uncertainty mechanism ultimately deliver value for money while protecting the ability to finance efficient delivery?**

Retaining the UM ensures that we aren't exposed to uncontrollable risk and consumers are not exposed to unnecessary ex-ante funding. Consumers are also protected by regulatory oversight of the costs we incur.



## Compressor emissions – King’s Lynn (UM 5), Peterborough (UM 6) and St Fergus (UM 7)

<b>BP chapter</b>	<b>Chapter 16.</b> <b>Linked to PCDs 5, 6 &amp; 7 in annex A3.01</b>
<b>Ofgem priority area</b>	Deliver a sustainable network
<b>Consumer priority</b>	I want to use energy when and where I want it I want you to facilitate delivery of a sustainable energy system
<b>Source of UM &amp; sector coverage</b>	Gas transmission UM proposed by Ofgem in sector specific decision.
<b>Summary</b>	Reopener to ensure costs of post-FEED final solutions included in baselines. Set new Price Control Deliverable for remainder of project.
<b>Trigger</b>	<b>Trigger point:</b> King’s Lynn - Year 2 (end of FEED), Peterborough – Year 4 (end of FEED), St Fergus – Year 2 (end of FEED)

### Why is this uncertainty mechanism important?

We agree with Ofgem's proposal for a reopener on compressor emissions costs. However, we propose that these should be specific to the compressor projects that we are proposing to complete spanning RIIO-2 and RIIO-3 (King’s Lynn, Peterborough and St Fergus). These investment proposals would be delivered through price control deliverables. More information on these can be found in annex A3.01.

We do not believe that this reopener is required for delivering compressor emissions compliance for the two proposed units at Wormington which we are proposing to be fully delivered in RIIO-2 as it would introduce unnecessary risk and uncertainty.

We want to make sure that the right solutions are progressed for these compressors due to be delivered across price controls to ensure maximum benefits for consumers. For all the compressor solutions proposed to be delivered across RIIO-2 and RIIO-3 there is some element of uncertainty which varies in each case. As set out in our PCD annex we are proposing proceeding to Front End Engineering Design (FEED) phase to define final solutions and costs to meet the agreed need. Key areas of uncertainty are as follows:

**King’s Lynn:** This investment is highly critical in 2 of the 4 FES scenarios, and if we don’t start work on design now there would not be time to complete a solution to meet customer needs in time.

Progressing with the non-build proposal would incur a significant delay if future flows require the capability of new units. This delay would result in significant constraint costs and customer impact. In addition, we would have spent significant asset health to refurbish a unit which would no longer be required. Proceeding to FEED allows greater certainty around need in the future without jeopardising the investment being able to be delivered if needed.

The proposed reopener ensures that the costs of the post-FEED final solutions can be included in baselines and set a new Price Control Deliverable for the remainder of the project.

**Peterborough:** This investment is due to be started near the end of RIIO-2. Whilst the need is certain, we want to make sure that the right solution is progressed to ensure maximum benefits for consumers. We believe that proceeding to FEED will allow us to fully assess options and value investments will bring to consumers. Proceeding to FEED also ensures that the option can be delivered in time to deliver its benefits. It also allows significant flexibility if, once the network capability process has become

embedded, it becomes clear that the investment is not required as it could be converted to another option such as one or two units, or asset health work.

The proposed reopener ensures that the costs of the post-FEED final solutions can be included in baselines and set a new Price Control Deliverable for the remainder of the project

**St Fergus:** We are proposing to redevelop the Plant 2 area of the St Fergus Terminal with new compression. However, there are three options that will continue to be assessed through the FEED study. Baseline funding has been requested for FEED and essential asset health costs. However, including post-FEED costs at this stage would risk consumers under or over funding solutions as there is uncertainty.

The proposed reopener ensures that the costs of the post-FEED final solutions can be included in baselines and set a new Price Control Deliverable for the remainder of the project. It is expected that this would include investment on both the redevelopment of the Plant 2 area, new compression and non-essential asset health costs.

### **Where does the ownership of risk lie?**

Ofgem originally proposed a reopener on compressor emissions compliance affecting all RIIO-2 units. We believe applying this reopener to the 2 new units being delivered at Wormington in RIIO-2 removes certainty around investment planning for RIIO-2. This could potentially introduce delays and costs ultimately borne by end consumers, and risk compliance with relevant legislation. We are not aware of any credible major changes that would require the need to revisit proposed investments at Wormington in RIIO-2 timescales.

Focusing the reopener on the three specific projects due to be delivered across price controls allows the reopener to be focused on projects that could credibly change for the reasons given above. Utilising these reopeners protects consumers from a number of risks:

**King's Lynn:** If we were not to utilise a UM we would need to make a definite proposal on build/not build at this stage. As the investment is critical in 2 of the 4 FES scenarios, and timing is critical on this investment if we did not utilise a UM we would make a risk-based decision to build. Securing a UM to adjust the potential solution post-FEED protects consumers from any potential over-investment if the build option proposed does not turn out to be needed.

**Peterborough:** There is a risk that solutions and costs may change due to the anticipated timeline for this project. This could mean that original costs may over-fund the solution (meaning consumers pay a higher price than needed) or under fund the solution (meaning NGGT does not have sufficient allowance for the project).

**St Fergus:** There is uncertainty between the three proposed potential solutions. We are proposing to finalise the price control deliverable and set agreed costs post-FEED to ensure cost accuracy. This avoids over-funding of the solution (meaning consumers pay a higher price than needed) or under fund the solution (meaning NGGT does not have sufficient allowance for the project).

### **What is the materiality?**

Compressor investments come at a significant cost. Whilst the materiality could be small, for example updated costs for similar solutions, it could also be large if a solution were to change significantly, for example should we decide to derogate and spend asset health monies on units rather than build new units at King's Lynn.

### **What is the frequency and probability of the issue over the price control period?**

In identifying specific investments for this UM we know that the frequency is once per site over the price control period (Year 2 for King's Lynn, Year 4 for Peterborough, Year 2 for St Fergus).

## Our uncertainty mechanism proposal

We are requesting ex-ante funding in our business plan FEED costs for the sites. PCDs 5, 6 & 7 have been set to deliver FEED.

Our uncertainty mechanism proposal is a reopener to ensure costs of post-FEED final solutions included in baselines. We are proposing that this reopener will set baseline funding and a new Price Control Deliverable for remainder of project. This will have a trigger threshold of 1% base revenues

Proposed timescales are set out below. The timeline categories include the following:

**FEED feasibility** includes high level design and optioneering. Will include proposed parameters for tender.

**Ofgem touchpoint** – we are proposing a 1 month touchpoint with Ofgem. Ofgem will be presented with initial findings from FEED feasibility - the tender outline parameters (for example x units, or units meeting a capability of x). View will be sought from Ofgem on whether they agree with the tender parameters. This touchpoint is set to reduce the risk of tender options not aligning with Ofgem’s needs for assessing the reopener.

**Tender process and BAT** – we will proceed to OEM tender which will inform the costs for the reopener and the assessment of Best Available Techniques (BAT).

**Reopener** – Following the tender outcome and BAT, we will propose our final recommendation to Ofgem for consideration.

**Decision required** - we have included this data as a final date by which a decision is required on each project. If these dates are not achieved the proposed timeline for the project as set out in our Business Plan would not be achievable.

**Table A3.02.03 Proposed indicative timelines for FEED and reopeners, compressor emissions compliance**

Site and high level proposal	Timeline				Decision required
	FEED feasibility*	Ofgem touchpoint	Tender process & BAT	Reopener	
King's Lynn 2 new units	January to June 2022	July 2022	August 2022 - January 2023	February - May 2023	June 2023
Peterborough 1 new unit proposed	January to June 2024	July 2024	August 2024 – January 2025	February - May 2025	June 2025
St Fergus	April 2021- April 2022	May 2022	June to October 2022	November 2022 - February 2023	March 2023

Note that tender costs are not included in FEED feasibility costs and would be included in the proposed reopener.

## What are the justifications for the mechanism?

Setting solutions and costs at this stage for compressors due to be delivered across RIIO-2 and RIIO-3 and before Front End Engineering Design has taken place introduces a risk that costs and solutions may change, meaning projects are over or under funded. For RIIO-2 compressors, these are being delivered in a shorter timescale and there is less likelihood that the solutions or costs would change. For compressors being delivered across price controls key areas of uncertainty are as follows:

**King’s Lynn:** This investment is highly critical in 2 of the 4 FES scenarios, and if we don’t start work on design now there would not be time to complete a solution to meet customer needs in time. Proceeding to FEED allows greater certainty around need in the future without jeopardising the investment being able to be delivered if needed.

**Peterborough:** This investment is due to be started near the end of RIIO-2. Allowing reopener after FEED has taken place allows any changes in solution if required and greater accuracy around costs.

**St Fergus:** We are proposing to redevelop the Plant 2 area of the St Fergus Terminal with new compression. However, there are three options that will continue to be assessed through the FEED study. Baseline funding has been requested for FEED and essential asset health costs. However, including post-FEED costs at this stage would risk consumers under or over funding solutions as there is uncertainty. The proposed reopener ensures that the costs of the post-FEED final solutions can be included in baselines and set a new Price Control Deliverable for the remainder of the project.

**What are the drawbacks from the mechanism and can they be reduced?**

The main drawback from such a mechanism is around regulatory burden on both Ofgem and NGGT in supporting reopeners. However, we believe the benefits from having multiple reopener windows is critical to ensure they can progress within proposed deliverability timescales.

**How does the proposed uncertainty mechanism ultimately deliver value for money while protecting the ability to finance efficient delivery?**

We believe that this mechanism protects consumers from uncertainties in final costs of compressor solutions due to be delivered in RIIO-3.

**UM 8 - Quarry and loss of development**

<b>BP chapter</b>	<b>Chapter 16</b>
<b>Ofgem priority area</b>	Deliver a sustainable network
<b>Consumer priority</b>	I want an affordable energy bill
<b>Source of UM &amp; sector coverage</b>	Gas transmission UM proposed by Ofgem in sector specific decision. Based on RIIO-1 UM but only for costs relating to loss of development and sterilised minerals.
<b>Summary</b>	Reopener to adjust baselines relating to unpredictable loss of development and mineralisation costs.
<b>Trigger</b>	Trigger point: End of year 2 Trigger threshold: 1% base revenues True up at end of period.

**Why is this uncertainty mechanism important?**

Our business is exposed to a number of costs relating to quarry and loss development/complying with legacy agreements. As part of costs captured in this area, loss of development and sterilised minerals costs relating to legacy contracts are unpredictable and unforecastable. Examples of these types of costs can be found in annex A16.9.

We propose that the UM only covers loss of development and sterilised minerals and that an ex-ante allowance is suitable for the other elements.

### **Where does the ownership of risk lie?**

Loss of development and sterilised minerals costs are driven by the behaviour of those holding legacy contracts relating to when the pipelines were first installed, by the behaviour of those we contracted with in the past, and we can't forecast these. Including these unpredictable costs in ex-ante funding would expose us to a risk we aren't able to manage effectively.

### **What is the materiality?**

In RIIO-1, all quarry and loss costs were dealt with as part of a reopener. Total reopener costs amounted to £23.1m of which loss of developments and sterilised minerals claims totalled £5.2m (23% of costs, 09/10 price base).

However, due to the externally driven nature of these legacy agreement claim costs, they have the potential to substantially swing during a price control period. Unless this is catered for in an uncertainty mechanism we could be subject to either a windfall gain or a windfall loss.

### **What is the frequency and probability of the issue over the price control period?**

There is no way of accurately predicting the frequency or probability of loss of development claims over the RIIO-2 period. We are proposing one trigger point in the price control period with a true-up to capture claims with a reasonable frequency.

### **Our uncertainty mechanism proposal**

We propose to retain a reopener in relation to loss of development and sterilised minerals costs only.

We believe that any uncertainty mechanism in the area should include the options for financial payments as alternatives to diversions where they demonstrate an overall cost saving for the end consumer.

Trigger point: Year 2 of RIIO-2

Trigger threshold: 1% base revenues

True up at end of period.

### **What are the justifications for the mechanism?**

Retaining an uncertainty mechanism to address loss of development costs means we won't be subject to a windfall gain or windfall loss through inability to predict these unforecastable events.

### **What are the drawbacks from the mechanism and can they be reduced?**

The main drawback from the mechanism is the regulatory and business time and resource to process any reopener request.

### **How does the proposed uncertainty mechanism ultimately deliver value for money while protecting the ability to finance efficient delivery?**

This uncertainty mechanism would remove our exposure to a risk we can't manage effectively.

## UM 9 - Net zero

<b>BP chapter</b>	<b>Chapter 16 &amp; 17</b>
<b>Ofgem priority area</b>	Deliver a sustainable network
<b>Consumer priority</b>	I want you to facilitate delivery of a sustainable energy system
<b>Source of UM &amp; sector coverage</b>	Proposed UM. This could be applicable cross sector but this is a GT proposal.
<b>Summary</b>	We are proposing a reopener relating to net zero to ensure we are able to respond quickly to work towards net zero goals.
<b>Trigger</b>	Trigger point: Year 2 of RIIO-2 Trigger threshold: 1% base revenues

### Why is this uncertainty mechanism important?

We are supportive of the government's recent target to achieve net zero emissions by 2050 and have set out our roadmap to net zero in chapter 11. Our environmental action plan (annex A16.01) sets out how as a gas transmission company we continue on our journey to reduce our emissions. However, we know that to reach the 2050 ambitions, fundamental changes in the way that the energy industry operates will need to be made. Political uncertainty may also lead to a more ambitious target delivery schedule.

As set out against our chapter on whole energy system, it is currently unclear which pathway to decarbonisation will be realised, what this will mean for the gas industry, and for us as a gas transmission and system operation business. What we do know is that as options for this become clearer we need a mechanism to get on and move forward to deliver against these challenges at a pace which does not jeopardise the UK's ambitions.

We are proposing a reopener uncertainty mechanism relating to net zero to ensure we are able to respond quickly to work towards net zero goals.

### Where does the ownership of risk lie?

If we do not have the reopener and wait until RIIO-3, there is a risk to wider society that we are not able to move quickly enough to work to meet net zero government targets, or that it may be more costly to achieve, condensing costs into shorter time periods. Delaying investment in this area would also mean consumer priorities around a sustainable energy network will take longer to achieve.

### What is the materiality?

Materiality could be significant. However, we do not yet know the scale of this materiality. As set out in our business plan, there is a significant amount of work which will need to be undertaken to understand the scale of work that will be required to move the gas transmission business to a net-zero future whilst protecting GB consumer needs to use gas as and when they want.

We understand some materiality around meeting our net zero ambitions, and where this is the case (e.g. for our proposals to transition our commercial vehicle fleet) this has been included in our RIIO-2 plans. However, as a gas transmission business we are also undertaking a project to better understand our emissions on a much wider scale. Through the completion of this work we will be able to work towards establishing a Science-based Target, which will be linked to investment periods within the network. We also will want to share our proposals coming out of this work with customers and stakeholders to ensure that they share our views around materiality and impact. Until this work is complete we will not have an understanding of what investment is required in RIIO-2, which is why we are proposing this uncertainty mechanism.

The reopener would be applicable across multiple areas, from emissions reduction to large-scale projects on hydrogen if innovation funding was not applicable for any reason. For example, as

indicated in Chapter 17, we currently have a joint project with SGN, called Project Cavendish, that is looking at a trial of Hydrogen in the east of England. This type of UM mechanism could be used for the next steps of Project Cavendish if innovation funding was not applicable.

### **What is the frequency and probability of the issue over the price control period?**

We believe that there may be solutions that would fall into the scope of this reopener appear during the RIIO-2 period. However, to reduce the regulatory burden of multiple reopener windows are proposing a single trigger point in year 2 (the year where anticipated change is most likely due to timelines relating to developing a science based target).

### **Our uncertainty mechanism proposal**

We are proposing a reopener relating to net zero to ensure we are able to respond quickly to work towards net zero goals.

Trigger point: Year 2 of RIIO-2

Trigger threshold: 1% base revenues

### **What are the justifications for the mechanism?**

As set out against our chapter on whole energy system and net zero pathway, it is currently unclear which pathway to decarbonisation will be realised, what this will mean for the gas industry, and for us as a gas transmission and system operation business. What we do know is that options for this become clearer we need a mechanism to get on and move forward to deliver against these challenges at a pace which does not jeopardise the UK's ambitions.

### **What are the drawbacks from the mechanism and can they be reduced?**

The outcome of the reopener could introduce volatility into customer charges. However, in the longer term it may allow for charges relating to working towards a decarbonisation to be spread across more of price control periods rather than fewer, which could lead to higher consumer costs later on.

### **How does the proposed uncertainty mechanism ultimately deliver value for money while protecting the ability to finance efficient delivery?**

Achieving decarbonisation will be one of the greatest challenges GB will face over the coming years. Once we understand the paths to achieving this and how we can facilitate this future we need to get on with delivering against this challenge. This uncertainty mechanism will allow us to do this as soon as we are able. This will mean that cost and environmental benefits will be achieved for consumers at the earliest possible opportunity.



## UM 10 - Whole systems

<b>BP chapter</b>	<b>Chapter 17</b>
<b>Ofgem priority area</b>	Deliver a sustainable network
<b>Consumer priority</b>	I want you to facilitate delivery of a sustainable energy system
<b>Source of UM &amp; sector coverage</b>	Cross sector proposed by Ofgem in sector specific decision.
<b>Summary</b>	This was in Ofgem's May decision as a cross sector 'coordinated adjustment mechanism'. Detail to be developed cross sector.
<b>Trigger</b>	To be defined through Ofgem cross sector engagement.

### Why is this uncertainty mechanism important?

This mechanism will enable more whole system solutions to be implemented and the relevant party funded for it – i.e. when the party who is doing the work does not receive the direct benefit from it, but it delivers overall best value for consumers. For example, Gas Transmission undertakes work that gives a benefit on the gas distribution network or vice versa.

### Where does the ownership of risk lie?

The proposal allows for more companies to work together to ensure no party is unfairly penalised. Historically, it has been unlikely for one company to do work that wouldn't deliver benefit on its own network, especially when they weren't able to claim the money back. This mechanism would reduce the risk of a company not being rewarded or reimbursed for doing something that drives a benefit for someone else.

### What is the materiality?

This will be defined through the design of the mechanism. Until more is known about how the mechanism works, it isn't appropriate to put a materiality on it.

### What is the frequency and probability of the issue over the price control period?

As whole system processes become more embedded and policy becomes clearer there is a likelihood that this type of mechanism could be used fairly regularly. For example, when heat policy is clearer there may be a need for joint projects or work that must be carried out on one network for the benefit of another.

### Our uncertainty mechanism proposal

This UM proposal is a cross-sector proposal and we will develop it in conjunction with Ofgem and cross-sector groups as required in the Ofgem Sector Specific Methodology decision document (May 2019).

### What are the justifications for the mechanism?

A mechanism that allows revenues to be reallocated is needed to encourage more whole system solutions and projects.

### What are the drawbacks from the mechanism and can they be reduced?

The design of the mechanism needs to be designed carefully so that all parties know when to trigger the use of the UM. It is vitally important that the threshold set is considered thoroughly so that it is not so high that the mechanism is never used, or too low so it is triggered too often.

## How does the proposed uncertainty mechanism ultimately deliver value for money while protecting the ability to finance efficient delivery?

Having an appropriately designed UM will enable us to implement true whole system solutions, with the right party being funded to carry out work that will enable benefits for consumers.

### UM 11 - Bacton

<b>BP chapter</b>	Chapter 14 Linked to PCD 12 in annex A3.01
<b>Ofgem priority area</b>	Maintain a safe and resilient network
<b>Consumer priority</b>	I want to use energy as and when I want I want you to facilitate delivery of a sustainable energy system
<b>Source of UM &amp; sector coverage</b>	Gas transmission bespoke UM proposed by NGGT
<b>Summary</b>	Reopener to be used to adjust funding allowances for the terminal redevelopment, once the final terminal design is confirmed and there is a more accurate view of the costs.
<b>Trigger</b>	Trigger point: Year 2 (end of FEED)

### Why is this uncertainty mechanism important?

We are proposing to redevelop Bacton terminal as set out in PCD 12 (annex A3.01) but the design and costs are not finalised. As we have no recent experience of terminal design and construction we have engaged specialist external consultancy support from Petrofac. They have confirmed the feasibility of the option to redevelop the Bacton terminal but there are also risks: extensive construction, commissioning difficulties, technologies that are new to National Grid. However, the risk is on a short timescale and can be managed more easily by companies used to operating in this arena.

We will use an uncertainty mechanism to protect consumers interests as stakeholder requirements are clarified, and final design and costs are refined.

### Where does the ownership of risk lie?

Without a reopener there is a risk that we could be funded for an incorrect solution at an incorrect price. This would mean customers would end up either over paying for a solution or NGGT would be under-funded.

### What is the materiality?

The total investment at Bacton is anticipated to be £143m. The materiality would be a proportion of this.

### What is the frequency and probability of the issue over the price control period?

This UM would only be triggered once during the price control period (year 1 of RII0-2), once design and costs are finalised

### Our uncertainty mechanism proposal

We are requesting ex-ante funding in our business plan for the full solution but are proposing a UM to allow for solutions and costs to be adjusted following the Front End Engineering Design (FEED) phase for Bacton terminal site redevelopment.

In terms of the timing of this uncertainty mechanism we want to ensure that we reduce the impact on end timelines to ensure that consumer benefit is delivered as soon as possible. The proposed timeline

is below. Note that project phases differ slightly to those stated for the compressor projects, they do not include BAT and tender for long-lead items is included in FEED.

**FEED** includes high level design and optioneering, and tender for long lead items. BAT is not undertaken for a project of this type.

**Reopener** – Following the tender outcome we will propose our final recommendation to Ofgem for consideration. The proposed reopener window is shorter than for compressors as we are anticipating these considerations to be less complex.

**Decision required** - we have included a final date by which a decision is required on each project. If these dates are not achieved the proposed timeline for the project as set out in our Business Plan would not be achievable

**Table A3.02.04 King’s Lynn subsidence FEED and reopener indicative timeline**

<b>FEED</b>	<b>Reopener</b>	<b>Decision required</b>
<b>April 2021 to May 2022</b>	<b>June - August 2022</b>	<b>September 2022</b>

**What are the justifications for the mechanism?**

As we have no recent experience of terminal design and construction we have engaged specialist external consultancy support from Petrofac. They have confirmed the feasibility of the option to redevelop the Bacton terminal but there are also risks: extensive construction, commissioning difficulties, technologies that are new to National Grid. However, the risk is on a short timescale and can be managed more easily by companies used to operating in this arena.

We will use an uncertainty mechanism to protect consumers interests as stakeholder requirements are clarified, and final design and costs are refined.

**What are the drawbacks from the mechanism and can they be reduced?**

The main drawback from such a mechanism is around regulatory burden on both Ofgem and NGGT in supporting reopeners. However, we believe that that utilising a UM is the most efficient solution in this circumstance.

**How does the proposed uncertainty mechanism ultimately deliver value for money while protecting the ability to finance efficient delivery?**

We believe that this mechanism allows work to start on the solution and funding to be in place for it while the proposed uncertainty mechanism ensures changes can be captured where necessary.

## UM 12 - King's Lynn subsidence

<b>BP chapter</b>	<b>Chapter 14</b> <b>Linked to PCD 11 in annex A3.01</b>
<b>Ofgem priority area</b>	Maintain a safe and resilient network
<b>Consumer priority</b>	I want to use energy as and when I want I want you to facilitate delivery of a sustainable energy system
<b>Summary</b>	Uncertainty mechanism to be used to adjust the funding allowances for the King's Lynn subsidence project once the final design is confirmed and there is a more accurate view of the costs.
<b>Trigger</b>	Trigger point: Year 2 (end of FEED)

### Why is this uncertainty mechanism important?

We are proposing address King's Lynn subsidence set out in PCD 11 (annex A3.01). Although Premtech has worked with us on the issues with the King's Lynn site, we have more work to do to finalise the solution, the detailed design, work programme and costs. As a result of the cost uncertainty this creates, we are proposing an uncertainty mechanism to protect consumers.

We will use an uncertainty mechanism to protect consumers interests as stakeholder requirements are clarified, and final design and costs are refined.

### Where does the ownership of risk lie?

Without a reopener there is a risk that we could be funded for an incorrect solution at an incorrect price. This would mean customers would end up either over paying for a solution or NGGT would be under-funded.

### What is the materiality?

The total investment at King's Lynn in relation to subsidence is anticipated to be £33m. The materiality would be a proportion of this.

### What is the frequency and probability of the issue over the price control period?

This UM would only be triggered once during the price control period, once solutions and costs are confirmed (year 1 of RIIO-2).

### Our uncertainty mechanism proposal

We are requesting ex-ante funding in our business plan for the full solution but are proposing a UM to allow for solutions and costs to be adjusted following the Front End Engineering Design (FEED) phase for King's Lynn subsidence.

In terms of the timing of this uncertainty mechanism we want to ensure that we reduce the impact on end timelines to ensure that consumer benefit is delivered as soon as possible. The proposed timeline is below. Note that project phases differ slightly to those stated for the compressor projects, they do not include BAT and tender for long-lead items is included in FEED.

**FEED** includes high level design and optioneering, and tender for long lead items. BAT is not undertaken for a project of this type.

**Reopener** – Following the tender outcome we will propose our final recommendation to Ofgem for consideration. The proposed reopener window is shorter than for compressors as we are anticipating these considerations to be less complex.

**Decision required** - we have included a final date by which a decision is required on each project. If these dates are not achieved the proposed timeline for the project as set out in our Business Plan would not be achievable

**Table A3.02.04 Bacton redevelopment FEED and reopener indicative timeline**

<b>FEED</b>	<b>Reopener</b>	<b>Decision required</b>
April 2021 to May 2022	June - August 2022	September 2022

**What are the justifications for the mechanism?**

We are proposing address King’s Lynn subsidence set out in PCD 11 (annex A3.01). Although Premtech has worked with us on the issues with the King’s Lynn site, we have more work to do to finalise the solution, the detailed design, work programme and costs. As a result of the cost uncertainty this creates, we are proposing an uncertainty mechanism to protect consumers.

We will use an uncertainty mechanism to protect consumers interests as stakeholder requirements are clarified, and final design and costs are refined.

**What are the drawbacks from the mechanism and can they be reduced?**

The main drawback from such a mechanism is around regulatory burden on both Ofgem and NGGT in supporting reopeners. However, we believe that that utilising a UM is the most efficient solution in this circumstance.

**How does the proposed uncertainty mechanism ultimately deliver value for money while protecting the ability to finance efficient delivery?**

We believe that this mechanism allows work to start on the solution and funding to be in place for it while the proposed uncertainty mechanism ensures changes can be captured where necessary.

**UM 13 - Policing costs**

<b>Summary</b>	Comply with our legislative requirements (the Counter-Terrorism Act 2008)
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**UM 14 - Conveyance of gas for independent systems**

<b>Summary</b>	Costs relate to government policy and cannot be controlled by NGGT, therefore treated as pass through.
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**UM 15 - Gas transporters’ share of Xoserve costs**

<b>Summary</b>	Pass through mechanism for gas transporter’s share of Xoserve costs. Only related to our share of costs for Central Data Service Provider (CDSP) services.
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## Finance uncertainty mechanisms

These financial mechanisms (listed below) are not covered in this annex. More detail on these can be found in Annex A22.01.

16. Inflation indexation of RAV and allowed return
17. Tax liability allowance
18. Pension scheme established deficit
19. Cost of debt indexation
20. Cost of equity indexation

## Uncertainty mechanisms proposed to be removed

### One-off asset health shocks

We accept Ofgem's May sector-specific decision that the one-off asset health shocks reopener could be removed, providing these shocks could be addressed through over-delivery of NARMS (exact mechanism to be agreed). If this is not the case, we believe a one-off asset health shock uncertainty mechanism should be reintroduced to protect against these kinds of unforeseeable network risk.

### Network flexibility

We agree with Ofgem's May sector-specific decision that this reopener should be removed. As we revise our business plan for December we will continue to consider whether there are any investments that previously would have been captured by this mechanism that would need to be included in our business plan (although we do not currently expect that any such proposal will be required).

Ofgem is proposing to use the licence modification process to make any required changes to network capability targets during RIIO-2. As we continue to work with Ofgem on network capability, we will consider how any customer-driven change that previously would have formed part of this reopener, should be treated.