

4. NATIONAL GRID GAS TRANSMISSION RESPONSE TO RIIO-2 DRAFT DETERMINATION: GAS TRANSMISSION SECTOR ANNEX

Introduction

National Grid Gas Transmission (**NGGT**) has serious concerns with Ofgem's RIIO-2 Draft Determination (**DD**) and its consequences for Great Britain. The DD cuts our proposed business plan baseline allowances from £2.60bn to £1.53bn and reduces the outputs we proposed in our business plan. Whilst we share Ofgem's stated objectives for RIIO-2, the DD currently fails to meet the needs of our customers and stakeholders and is not in the interests of current and future consumers because it:

- 1. Introduces significant risk to the reliability and resilience of the network,**
- 2. Creates unnecessary complexity and volatility in the framework, and**
- 3. Erodes regulatory stability and investor confidence.**

We welcome the fact that Ofgem has clearly signalled this as a consultation in which it is open to making changes based on stakeholder views and through consideration of evidence. This is positive and important because we consider that a significant number of the proposals are currently unacceptable and numerous remedies are necessary for Final Determination to address the issues identified. We have therefore provided an evidence-based response, supplying new evidence where relevant and proposing remedies to the issues identified which better meet the interests of consumers.

We will also continue to engage constructively with Ofgem over the weeks and months leading up to the Final Determination with a view to ensuring our evidence is fully understood and the necessary changes secured.

Structure of this response

There are seven parts to our response in which we provide the substantial evidence to justify and support the changes needed:

1. A covering letter
2. An executive summary of our response
3. Our response to the Core Document
- 4. Our response to the Gas Transmission sector annex**
5. Our response to the NGGT annex
6. Our response to the Network Asset Risk Metric (NARM) annex
7. Our response to the Finance annex

We have set out a number of concerns on the following areas at the beginning of our response to the NGGT annex, which should be read in conjunction with the questions responses and detailed evidence provided in this document.

Response to Ofgem Questions GTQ1 to GTQ3

GTQ1. Do you agree with the outputs package that we are proposing for the GT sector?

Price control deliverables (PCDs)

Coverage of the plan

We support the concept of Price Control Deliverables (PCD), a new type of output for RIIO-2, as a means to hold network companies to account for delivering agreed outputs against funded allowances. As a result, just under half our plan (47%) is subject to the proposed PCD framework with Ofgem's proposals covering the same broad areas as we proposed within our December 2019

business plan. However, we have serious concerns with the content (or lack thereof) within the Draft Determinations with regards to the proposed operation of the PCD framework.

Lack of consultation on PCD guidance

Ofgem has not provided us sufficient information to fully understand the impact of the implementation of this new type of output for RIIO-2 as part of the Draft Determinations.

In terms of the information presented within the Draft Determinations itself, the text in paragraphs 4.8 to 4.10 of the core document on the PCD framework is very limited and only: refers back to what the SSMD says about setting PCDs for certain types of projects; says that PCDs are by their nature relatively bespoke and the ways in which they are set and assessed will vary accordingly; and refers to specific PCDs within the relevant Draft Determination document (typically company annexes), which themselves provide limited information that will be clarified through licence and guidance documents.

Instead of including it in its Draft Determinations, Ofgem proposed elements of its PCD policy framework at a workshop on 18 August 2020, six weeks into the eight-week consultation period. Furthermore, Ofgem only shared a draft of its PCD framework paper on 27 August at the end of the seventh week of an eight-week consultation and has only given network companies a narrow period of consultation time in which to respond. This paper appears on a first reading not to address the issues we have identified below.

Ofgem has not allowed network companies a full opportunity to comment on Ofgem's PCD framework as part of its Draft Determination because the PCD framework is still clearly subject to large amounts of development after the Draft Determinations have been issued.

We recognise that in Ofgem's proposed licence text that Ofgem would have to formally issue a 28-day consultation on any PCD guidance. However, in order to reach a view on the PCD framework, we expect Ofgem to fully consult on the guidance with stakeholders ahead of this to ensure the impact on the industry and network companies price controls is fully understood and considered.

Lack of clarity on penalties relating to PCD delivery

We recognise the intention of PCDs is to hold us to account where an output is not delivered. We agree with this and proposed within our business plan that where an output is not delivered because that is in the interests of consumers, that funding for the output, less any costs should be returned including WACC.

Whilst Ofgem's draft policy paper sets out more detail than that available in the Draft Determinations, we believe that the proposals provide Ofgem with an inappropriate amount of scope regarding penalties relating to PCD delivery. Whilst in the text of the policy framework the parameters for adjustments for delivery adjustment appear discrete e.g. reprofiling allowances for late delivery, Ofgem also appear to be at the same time proposing a broad ex-post assessment mechanism (paragraph 7.5). At a principle level, an ex-post efficiency assessment is not in the interests of consumers. It increases regulatory risk arising from the danger of second guessing our actions against perfect hindsight and would be resource intensive across network companies, Ofgem and our stakeholders (who will need to contribute and who's input will be critical to ensure decisions give them what they need). It has the potential to stifle valued innovation, weakening incentives for efficiency and slowing productivity. Subjecting large sums of baseline funding to the threat of clawback also potentially undermines investor confidence with a potential impact on financeability. All of these things will generate bad outcomes for customers, delaying work, higher costs and less innovation, at a time when agility and flexibility is critical.

For the first time at the 18 August 2020 PCD workshop, on slide 8, Ofgem raised the potential for:

1. adjustment to allowances that go beyond recovering allowances for the part of outputs that have not been delivered; and
2. adjustment to allowances that ensure consumers do not suffer any detriment.

This was not included in the Draft Determinations or the PCD draft policy paper. However, should this arise as a formal Ofgem policy it would be extremely concerning. It opens up the possibility of potentially very large and uncertain penalties for not fully delivering a PCD output because consumer detriment is hard to measure, is often not knowable in advance and affected by factors that a network company cannot control (e.g. constraint costs caused late delivery can vary hugely depending on the weather and the generation market).

We also do not support claw back of allowances where projects are delivered late, if this is not in the network companies' control. Ofgem have set out that they Companies would likely already be incurring significant costs if a project were delayed. Also, many of our PCDs are already covered by other licence obligations, or legislation, for example environmental legislation. As such, a double penalty for non or late delivery would be inappropriate and not in the interests of consumers.

As a result, we believe Ofgem should take account of the potential issues around penalties when developing its final views. Ofgem should formally consult on its approach to PCD penalties in September.

Lack of clarity on revenue arrangements

Ofgem has not been clear when the revenue changes resulting from Ofgem's ex-post assessment of PCD delivery will take effect.

At the 18 August 2020 PCD workshop Ofgem provided, for the first time, information on when it might make adjustments to network companies' allowances for PCD delivery. Ofgem said it was considering making adjustments at RIIO-2 close out; or with one or two mid-period reviews as well as RIIO-2 close out for PCD delivery. Ofgem needs to provide firmer proposals to network companies so that they can understand the risks to their financial profiles in the RIIO-2 period, and this should be consulted on at the earliest opportunity.

The introduction of Price Control Deliverables provides a high level of protection and cost confidence to consumers. The intent of the framework is to hold network to account for delivery of outputs. It also requires that funding for any outputs not delivered is returned. This provides necessary protection and high cost confidence to consumers beyond even an uncertainty mechanism. Costs covered by a PCD are high-confidence and Ofgem should assess them as such for the Totex Incentive Mechanism and Business Plan Incentive.

Status of PCD guidance

Notwithstanding the lack of consultation and clarity set out above we have serious concerns about the status of the PCD guidance itself. Ofgem must make sure that the rules for outputs with such a huge coverage across the plan are written robustly into the licence rather than relying on guidance that Ofgem can change without protections for network companies.

Given Ofgem's proposed policy as we have described above of potentially large and uncertain penalties related to consumer detriment for not fully delivering a PCD output, and Ofgem's proposed policy of reviewing a network company's delivery ex post, it is absolutely vital that the licence sets out clearly:

- A precise definition of the PCD output
- A precise definition of the delivery date or delivery window and what constitutes non, late and partial delivery
- An explanation of what constitutes acceptable equivalent delivery for assessment purposes
- The financial consequences of non, late and partial delivery
- The process and timing of the recovery of any allowances for non, late and partial delivery.

Our comments on specific PCDs over and above the generic issues raised above are set out as follows. Where these comments relate to specific consultation questions this is identified.

Major projects PCDs

Projects: compressor investments, Bacton Terminal Redevelopment, King's Lynn subsidence

We believe careful consideration needs to be given to how delivery is measured for these projects and at what point. This information is project specific and should be set out within the licence.

Decommissioning PCDs (NGGTQ28)

The decommissioning portfolio of projects anticipated for RIIO-2 is broad, and there are already new customer-driven disconnections that have been identified since the submission of our business plan. The decommissioning PCD should define equivalent delivery in such a way that we can prioritise new projects for decommissioning based on risk within the price control period, as set out in our December 2019 plan proposal to ensure that customer money is being spent addressing the assets that pose a higher risk.

Asset health – non-lead assets (NGGTQ25)

We are comfortable with the approach that Ofgem has taken to the PCD on asset health – non lead assets.

Physical resilience PCDs (NGGTQ30)

We support Ofgem's proposal that the Physical Security PCD will only apply to capex activity for PSUP upgrades at new sites.

Cyber PCDs (CoreQ17)

We agree that the PCD should include, alongside the delivery of project-specific outputs, the delivery of outputs such as CAF outcome improvement, risk reduction and cyber maturity improvement as this is consistent with our December 2019 Business plan.

NARMS - please see specific NARMS responses NARMQ1-Q4.

Output Delivery Incentives (ODIs)

In network regulation, incentive schemes are recognised as powerful tools to create additional consumer value, aligning the overall costs and risks faced by the network company more closely with those faced by consumers. Well-designed incentives therefore play a fundamental role in the RIIO framework by financially incentivising network companies to make optimal decisions that can deliver significant consumer value. This can be achieved by designing the incentive scheme in a way that correlates a potential financial reward for network companies with consumer outcomes. The financial reward is typically linked to the network company outperforming an *ex-ante* target. The incentive works by providing the network company with the flexibility to make optimal decisions to reach, or even outperform, that target.

We welcome that in some areas Ofgem has accepted NGGT's business plan incentive proposals, as we continue to believe that for these schemes provide an appropriate risk/reward balance and create the incentive for NGGT to deliver additional value to customers and consumers. Specifically, we welcome the proposals on the following incentive schemes:

- Residual balancing - as per our proposals.
- CSAT – as per our proposals.
- GHG – as per our proposals, importantly including an upside on GHG, which supports increase focus on environmental incentive.
- Decision to include a new Environmental ODI, using the basic design of NGGT's proposed environmental incentive.

However, on other incentives, whilst the proposals are aligned with Ofgem's position in the SSMD document, we feel there is no explanation of how these proposals are aligned with customer/consumer interest. The proposals do not appear aligned with the principle of strong incentivisation to encourage delivery of improved outputs for consumers, which was a cornerstone of the original RIIO framework. On these incentives Ofgem's focus appears to have been on reducing the value of the incentive schemes, either through reduced scheme parameters (caps,

collars and sharing factors), not accepting proposals for incentive reopeners, by changing to a downside only schemes or by removing financial incentivisation completely.

We understand in circumstances where we have historically performed well against an incentive, and where the setting incentive parameters is complex, it is understandable that you may wish to take a conservative approach. One reason for this is because, even where consumers share in the gains from the network company's performance, the gains to the network company are more visible and tangible than the gains to the consumers. Or, put another way, significantly dampening an incentive provides a visible direct benefit to consumers (in terms of lower returns to the network company), but any losses to consumers (in terms of foregone efficiency gains) are less visible and difficult to quantify.

For some of these schemes there is little or no evidence available to justify the approach adopted or calibration of the proposed incentives. In some areas the proposals fail to recognise the effort and investment required by NGGT to maintain (if not improve) performance. In other areas we believe risks that we are best placed to manage are being transferred to consumers, who have no ability to control them.

The reduced strength of incentives will fail to deliver potential service improvements, leading to lost value to consumers. There has been little transparency over how this lost consumer value has been assessed against an apparent objective of making the schemes of lower value or weakened in incentive strength.

We have sought to actively engage with Ofgem via bilateral meetings to understand the basis upon which they have assessed our proposals and the analysis they have undertaken to inform the design of the ODIs proposed within Draft Determinations. Limited explanation has been offered beyond the cursory rationale outlined within their Draft Determination. Notwithstanding this, we have carefully considered Ofgem's proposals against the needs of our customers and stakeholders, our high-level views on these incentives is provided below:

- Demand forecasting where the calibration of the scheme means that it is too small to warrant further investment to improve D-1 forecast accuracy. A more challenging/dynamic use of the network, alongside greater supply and demand volatility increases the challenges to accurate forecasting and investment levels just to stand still. We believe the outcome will be a focus on maintaining rather than seeking to improve forecast accuracy.
- Shrinkage where the move to a reputational only incentive means there will be a reduced focus on our activities, most notably in the price performance part of the scheme, which does not appear appropriate for a scheme with costs borne by consumers of £50-£90m/year nor is this consistent with the spirit of the RIIO framework.
- Maintenance, where the move to a downside only scheme, removes any incentive to beat the scheme targets. This represents a risk of increased maintenance disruption to consumers which is inconsistent with the strong vocalised support for this incentive.
- Constraint Cost Management where the scheme for RIIO-2 has been simplistically designed against a perception of low probability / high consequence events and around RIIO-1 outcomes rather than the level of risk faced in RIIO-2. The Draft Determination scheme removes allowances necessary for us to undertake certain risk mitigation activities (for example, longer term constraint management contracts). We are concerned that this will impact the balance of system operation and asset investment and maintenance decision making processes, increasing likelihood of constraints faced and risks borne by customers.

It is not clear how the increased risks arising from Ofgem's decisions on the Gas TO investment plan or how the future use of the NTS by our customers has been factored into consideration on constraint risk. In the case of CCM specifically, we believe Ofgem have unjustly and simplistically extrapolated RIIO-1 performance to propose a RIIO-2 scheme. In doing so this has placed significant weight on the flawed conclusions arising from AFRY's Network Capability audit and, at a principle level, is at odds with the current commercial regime that has been deliberately designed

for us to overselling capacity, which potentially reduces wholesale energy prices for consumers, with NGGT managing the inherent risk through the CCM incentive.

Licence obligations

We support the proposed licence obligations that have remained as set out in SSMD and which align with our business plan commitments to retain them:

- Emergency response and enquiry service
- Connections (comply with process requirements of UNC)
- 1 in 20 peak day demand capability

Note for the emergency response and enquiry service Ofgem committed to consult on amending the existing licence condition within the Sector Specific Methodology Decision for Gas Transmission (para 2.124). However, this has not taken place, so we are not able to provide comment on the detail.

Specific comments on other licence obligations are below. Further information can be found in the questions referenced.

Obligations to support the delivery of a digitalised energy system (COREQ5) - We are unable to confirm and, equally believe there is insufficient information available to any stakeholders to determine if these licence obligations will support the delivery of a digitalised energy transition. At present we are unable to support the licence conditions as the Digitalisation Strategy and Action Plan (DSAP) guidance cannot be fully understood and the guidance has not been fully factored into companies RIIO-2 business plans.

Annual environmental report (COREQ9) - We are committed to working to reduce our carbon emissions as a business and are with the concept of our Annual Environmental Report as a licence obligation. As the format of this Report has not yet been developed, we will work with Ofgem and industry to take this forward on a cross-sector basis. However, we note in our response to the question above, we have concerns about our ability to deliver on our ambitious environmental commitments given the impact of Ofgem's Draft Determinations on opex through the CAI escalator.

Annual network capability assessment report (NGGT12) - We are supportive of the principles of both the NCAM and ANCAR, although would highlight that further detail is required to fully scope the required processes, documents and timing of these.

Exit capacity – This is a licence obligation proposed to be set up in parallel with the GDN obligations. We have no specific objections to this given it is a formalisation of activities which we already undertake.

Licence obligations not set out in the Gas Transmission Annex

Ofgem propose the following new "licence obligations" within their drafting but these are not set out as specific licence conditions within the annex. For example:

- "Introduce a new licence obligation for the SO to annually report on activities/investments conducted to improve D-1 demand forecasting" (Gas Transmission Annex, page 12).
- "Introduce licence obligations on NGGT to report on the costs of procured energy compared to 'perfect foresight' and 'pure on the day' purchases scenarios (NGGT Annex, page 37).
- "Licence obligation on NGGT to investigate the causes of UAG and CVS on a regular basis and to improve on metering and inspection activities (NGGT Annex, page 37).

It is unclear as to the status of these "licence obligations" given they are omitted from the proposed Licence Obligations in the table within either Annex.

For the first two of these licence obligations, the reporting on these would be anticipated to be straightforward. However, we fundamentally disagree with the need for these licence obligations

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and believe incentives are better placed to drive the behaviour targeted by these licence obligations. Please see our responses to NGGTQ2 and NGGTQ7 for further information.

However, for the third licence obligation set out above relating to UAG and CVS we don't agree with a new licence obligation as we believe the current licence condition remains fit for purpose and encourages the right behaviour.

We would also like to note that we do not own the majority of meters so are not best placed to address metering errors leading to UAG. From a perspective of calculation of shrinkage, over 90% of measurements that form part of this calculation are from equipment owned by distribution networks. Therefore, responsibility for addressing metering issues should not fall solely to NGGT. Please see NGGTQ7 for further information.

Ofgem should continue with the existing licence obligation which is sufficient in this space.

GTQ2. Do you agree with our overall approach to cost assessment in the GT sector?

We have set out responses to cost assessment as follows:

- Load and non-load related capex – NGGT questions 21, 22, 23, 24, 25, 26, 27 and 28.
- Other costs – NGGT question 30 and in the confidential cyber IT and OT annex.
- Non-operational capex - NGGT question 29.
- Opex - NGGT question 31.
- Ongoing efficiency - Core question 11.

Key points are summarised below.

Asset Health Unit Cost Build

We employed an approach, aligned to Ofgem thinking, that considers historical outturn information as the strongest indicator of future unit costs. Where outturn costs are not available, we have used the next set of strongest indicators which may consist of combinations of outturn costs, supplier quotations or estimation techniques.

There remains an ongoing commitment in testing, developing and honing our unit costs to improve our abilities as an Asset Manager and delivery efficiencies to the customer via continual development. As such, our unit costs figures are subject to change and we have been keen, via engagements with Ofgem, in sharing working calculations early and throughout the process to support a transparent and constructive view of our plan.

Our approach for Asset Health focused our activities on investments of £10m or greater across both RIIO-2 and RIIO-3, these investments represent over 60% of the expenditure. This ensured prioritisation efforts, while ensuring Ofgem would be practically be able to review considerable unit cost information.

We have provided a high-quality submission based on efficient unit costs. Starting with historic outturn evidence the equivalent unit cost from RIIO-1 and overlaying the efficiencies we expect to achieve in RIIO-2. The detailed working has been extensive, and, throughout the entire process, documentation and audit trails have been maintained. This included, where relevant, the removal of part completed projects, outliers and ensuring known efficiencies were included.

These expected RIIO-2 efficiencies included within unit costs will be further enhanced by the plan wide commitment to achieve a 4% efficiency on our baseline direct capital investments.

The availability of representative cost information for the more bespoke Gas Transmission activities is challenging, given the low number of directly relevant external reference points available to us and the limited levels of certain types of historical asset interventions.

Challenges and confidence levels

The existence of diversity in our assets types and local environment creates diversity in work mix therefore uncertainty in the calculated unit costs. An example of this is the use of prevailing compressor gas generator technology, which can give rise to a wide range of re-life costs depending on the gas generator concerned. This coupled with a number of different environmental and geographical factors (such as corrosive environments making it difficult to predict the condition of inaccessible assets, remoteness/accessibility of assets and variance in the depth of our below ground assets), creates challenges when using historical project outturn information to predict future unit costs. Equally, as our assets age and we see more potential failure modes that we have not rectified before, estimation of the cost to resolve becomes more uncertain.

We incorporated increasing efficiencies in the forecast cost to deliver the required asset health programme due to both known innovation (that was not available at the time historical works were completed), and changes to policy we are already making in the pursuit of greater levels of whole life cost efficiency. Specific examples of such overlays include:

- We have considered the impact of such innovation and policy changes on all UIDs, identified 64 that are impacted and made appropriate adjustments where necessary.
- Furthermore, we have declared future efficiencies of 4% within our asset health plans which we expect to deliver through further innovations, however we do not know specifically what those opportunities are today.

Benchmarking

To provide additional confidence that our costs are efficient and help us identify where there are better ways to deliver our work, we have been putting significant effort into creating relevant external benchmarking data.

We issued an enquiry to several external consulting organisations which included Arup, Turner and Townsend, Chandler KBS, Arcadis & DNV GL Noble with the objective of obtaining comparable unit cost data from other related industries. Arcadis were the only respondent with their own unit cost repository. Differences in how data has been collected and other cost differentiators between peer industries has made obtaining like for like comparisons very difficult.

We are founder members of GTBI and noting its purpose is to share best engineering practice, we asked this group to participate in a cost benchmarking exercise. We asked for outturn costs from completed projects over the past 10 years, however not all companies can provide all information. Acknowledging the limitations and constraints of the study, the findings provide more qualitative than quantitative information. Juran, a third party non bias consultant, found it difficult to draw concrete conclusions about the unit costs observed, given the limitations and constraints of the study.

Within the National Grid group there is a US-based gas network business. This network more closely resembles a UK gas distribution network. We utilised work done in preparation for the GTBI study to explore with our US counter-parts if they could assist us. As with GTBI members it was found that the granularity and clarity of captured costs meant reasonable comparative data was not available.

To date, we and Ofgem have been unsuccessful in generating reasonable comparative information and as such have not been able to use this data to validate our internal unit cost assumptions with those of external parties.

Specific challenges associated with unit costs are noted in NGGTQ25

GT Project Assessment Process for reopeners

The high-level reopener process proposed as part of Draft Determinations is in line with our expectations, having been developed through a series of policy bilateral meetings with Ofgem. However, we seek further clarity around expectations of our submissions to provide information to

support these assessments. Having not seen the detailed reopener guidance we are not able to comment on the detail of the process proposed other than at the high level proposed in Draft Determinations. Ofgem need to share a more detailed draft reopener guidance at the earliest convenience to fully understand the impacts of these processes on the NGGT business and our stakeholders.

We seek clarity on what constitutes minimum requirements for the submission, given we have set out elsewhere in our response that this has been unclear for the RIIO-2 business plan incentive and RIIO-1 reopener submissions. This guidance should set out and make clear the level of information required for Ofgem to make their reopener decision. In our view, this would be an investment decision pack comprising EJP and CBA to a similar level of information provided for the August 2020 Hatton submission, ensuring we cover off any of the specific areas Ofgem have set out in their Draft Determinations. We ask Ofgem to provide further clarity on any other specific requirements for inclusion in the proposed guidance.

Ofgem have set out within the Draft Determinations specific areas they wish us to consider for different sites. When considering the right option to be taken forward we will continue to look at the most economically beneficial option for end consumers. We will also need to meet the requirements of our obligations, including those within our environmental permits. Our environmental regulators will need to agree the final option to deliver environmental compliance

Our view of compressor emissions costs reflecting changes in process since submission is shown below. Please see our responses to NGGTQ23 and 24 for further information on compressor emissions.

Opex

Network operating Costs (NOC)

The approach to cost assessment for NOC as stated under 3.45 of the Gas Transmission Annex states that Ofgem did not consider it appropriate to disaggregate NGGT's proposed direct Opex costs and instead have used historical actual **total** direct Opex data to set RIIO GT-2 costs.

This is incorrect as allowances have actually been assessed on a disaggregated basis for the TO, with allowances awarded in full where the historical trend shows higher costs on a disaggregated basis. Therefore, proposed costs for Fault Repairs and Operational Property Management were allowed in full as they were below Ofgem's forecasts, however £9.46m of PI&M costs were disallowed due to Ofgem's model predicting lower costs. In applying this mechanistic assessment on a disaggregated basis Ofgem miss the interdependency between Faults and PI&M. Aggregating the two activities and comparing them to Ofgem's forecast costs properly reflects the interrelatedness of these two activities and reduces the difference to Ofgem's forecast from £9.46m to £4.68m. All of this upward trend is explained by our cost drivers which Ofgem have stated to be satisfactorily explained in our submission. We provide further detail on this in our response to NGGTQ31.

Indirect opex

We address Ofgem's assessment of Closely associated indirect (CAI) costs, which encompasses both opex and capitalised indirect labour costs, and Business Support costs in detail as part of our response to NGGTQ31. However, we also provide a summary here of our views with respect to the key elements of this approach as set out by Ofgem in the GT sector annex.

We do not agree that ET and GT sectors should be pooled together into a single regression analysis. Commonality of closely associated indirect (CAI) sub-categories between GT and ET sectors, and similar trends in Business Support Costs (BSC) do not in themselves demonstrate suitability for pooling of the two sectors. In their assessment of Ofgem's approach NERA demonstrate statistically that the GT sector has a different relationship to CAI and BSC costs than the ET sector, a difference which Ofgem's preferred CAI and BSC models fail to take into

account and so inadequately modelling efficient costs. Further detail on this can be found in our response to NGGTQ31.

We do not agree with Ofgem's decision to disallow a portion of our IT & telecoms in line with Atkins' assessment. Our IT operational costs reflect the costs of supporting our IT systems and we submitted evidence of the efficiency of our costs going into RIIO-2 in the form of a comprehensive benchmarking review performed by independent experts Gartner. We embedded our ambitious ongoing efficiency commitment of 1.1% per annum into our IT operating costs which more than offset the incremental costs of new investments we proposed in RIIO-2.

We do not agree that forecast efficient insurance costs can be predicted from historic costs. Over 95% of our insurance costs are premiums which are externally driven and forecast to rise over the RIIO-2 period due to market distress. We provided evidence from two independent insurance brokers who estimated that commercial premiums would be over 30% more than our proposed premiums for RIIO-2. Ofgem should assess insurance costs separately, in line with their approach in RIIO-1 and in recognition of the future expectations of premiums over the RIIO-2 period.

In our response to NGGTQ31 we provide evidence to support a number of concerns with Ofgem's preferred models for CAI and BSC costs, in addition to the assumption of comparability of sectors above.

- Allowances have been set based on observations from only six years of RIIO-1 costs for the four Transmission networks, resulting in a wide dispersion of apparent efficiency gaps because there is not sufficient data to reliably estimate efficient costs
- Ofgem's preferred models assume comparable cost structures between GT and ET sectors when statistical tests show that this is not the case, resulting in the model being mis-specified
- Ofgem's preferred models fail important statistical tests and so are subject to error and bias in their estimation of true efficient costs, leading to disallowances that are too high
- The coefficients used by Ofgem to set allowances are highly sensitive to modelling decisions around the treatment of scale effects and choice of cost drivers making it impossible to conclude where the true efficient view of costs lies, for example by selecting alternative modelling approaches that still meet Ofgem's model selection criteria the efficiency score for NGGT CAI costs in RIIO-2 could fall anywhere between 0.72 to 1.41.
- Ofgem has used the results from these models directly to set allowances and has failed to consider evidence we submitted to demonstrate the efficiency of our underlying costs. This is particular concerning in cases where we forecast increases in cost drivers, such as rising insurance premiums, and the costs to support our cyber, net zero, and workforce resilience activities and despite Ofgem agreeing to the need for those higher levels of cost drivers elsewhere in their determinations such as the costs we need to take forward our Environmental Action Plan commitments.

Our concerns are supported by an independent review of the indirect modelling approach, conducted by NERA and we submit their report as part of our response.

In adopting this approach for the first time to assess Transmission indirect costs Ofgem have gone against their stated intent to "adapt the RIIO-ET1 cost assessment process, as appropriate, rather than establish a new approach for RIIO-ET2". Earlier engagement on indirect cost assessment methodology, for example as part of the RIIO-2 tools for cost assessment consultation in August 2019, would have helped Ofgem gather views from networks and other stakeholders and develop a more robust cost assessment methodology than the one they have relied on in their Draft Determinations.

In reaching their Final Determination, Ofgem should remove NGGT from regression analysis recognising the fundamentally different cost structures prevent meaningful comparison with the ET sector and instead set allowances based on consideration of evidence submitted by networks for the efficiency of their proposed expenditure in RIIO-2. For CAI that means assessing against

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historic trends and upward cost driver evidence, for business support costs against efficiency benchmarking evidence.

Ongoing efficiency

Our substantive position on Ofgem's approach to ongoing efficiency can be found in our responses to questions 10 and 11 of the core consultation document. We summarise our view below.

Ofgem's proposal for 1.2% (capex) and 1.4% (opex) per annum ongoing efficiency targets place excessive stretch on top of its already unprecedented and unjustified efficiency challenges to networks costs. These targets are above regulatory precedent, including those applied recently in the water sector, and seek higher than historical productivity gains from networks during a period of sustained low general productivity and with significant future uncertainty around Brexit and Covid-19 economic impacts. The 0.2% innovation adjustment is without basis, double counting gains already embedded in our business plan and acting to further increase the error in Ofgem's selected target.

We embedded a stretching 1.1% future productivity target across our operating costs in our business plan; the highest target of all networks' business plans and aligned to the recent water sector target. This was on top of compelling enduring savings we expect to deliver by the end of the RIIO-1 period. Our proposal was linked to our request for a fixed labour RPE allowance, in recognition of the more specialised and long-term dynamics of our workforce and the greater role that networks can play in managing pay. It was also linked to the evidence we submitted that our business plan costs were at the efficient frontier as we started the RIIO-2 period.

Despite this, Ofgem has proposed to add an even greater degree of stretch to our costs. This is unjustified. Firstly, Ofgem's estimates of the size ongoing efficiency is inconsistent with current economic trends and regulatory precedent. Ofgem's proposed ongoing efficiency challenge:

- Is based on a flawed range of estimates that are inconsistently calculated and not prepared on a basis that is consistent with regulatory precedent. For example, by:
 - Taking an unweighted view of historic productivity trends resulting in 50% of productivity data points relating to pre-financial crisis period and so downplaying the importance of more recent sustained lower productivity growth;
 - Using a wide range of industries encompassing poor comparators for energy networks, such as agriculture, accommodation and food services and arts and entertainment industries;
 - Placing more weight on higher but less reliable "value-added" measures of productivity and downplaying the more reliable "gross output" measure of productivity that takes greater prominence in regulatory decisions;
 - Compounding this issue of placing more weight on "value added" by then applying the measure across all inputs rather than those to which specifically relate to the Value-Added measure (i.e. those which do not include intermediate inputs such as our contractor delivered capex).
- Dismisses the potential impact of future economic uncertainties that prevail through the RIIO-2 period, for example:
 - Incorrectly interpreting rising Office of Budget Responsibility (OBR) forecasts as a sign of expected economic recovery rather than a result of their forecasting methodology, which seeks return to a steady state level of productivity and has resulted in several revisions as recovery has yet to materialise;
 - Does not consider most recent Bank of England (BoE) forecasts that incorporate Covid-19 and other latest impacts to the economy and forecast only 0.75% growth over the next 18 months.

Secondly, Ofgem adds a further 0.2% innovation adjustment to its efficiency target which is without basis and makes the same error in failing to assess the extent to which networks have already embedded benefits that was made for RIIO-ED1 Smart Grid Benefits. Ofgem fail to recognise that;

- Innovation projects are undertaken for a range of reasons, not solely financial. Of the £88.5m NIC funded innovation projects in RIIO-1 less than £10m was directed to projects primarily focused on reducing price control costs;

NGGT response to RIIO-2 Draft Determination: Gas Transmission sector annex

- The fact that innovation stimulus has been needed in the energy sector points to lower than general levels of innovation occurring than in the general economy; to the extent to which innovation gives rise to financial benefits these will already be reflected in the general economic productivity targets;
- Any financial benefits identified from RIIO-1 innovation are already embedded in our business plan costs, we provided evidence that our RIIO-2 plans benefitted from £43m of reduced or avoided capex costs from RIIO-1 innovation and efficiencies;
- Notwithstanding the flaws above, the 0.2% is based on a notional expected return to consumers rather than what an efficient company could reasonably achieve and ignores the 10% contribution networks make to the funding of NIA projects, plus the compulsory contributions made to NIC funding.

Ofgem layer this challenge this on top of unprecedented and unjustified efficiency disallowances across our business plan, resulting in efficiencies that add up to £224m across the period.

Our business plan proposals made a link between long term input price influences on labour, with a long term view on productivity, and we think this approach addresses considerations for economic uncertainty during RIIO-T2, and the extent to which these may or may not impact transmission network companies, and in or response to Q10 on Real Price Effects, we ask that Ofgem consider the merits of this approach in the unprecedented circumstances we face. We also suggest that they may be merit in taking a net nil view on labour RPEs and ongoing efficiency given their close parity, leaving only external capex costs subject to RPE indexation, which we consider also capture the productivity gains of external companies.

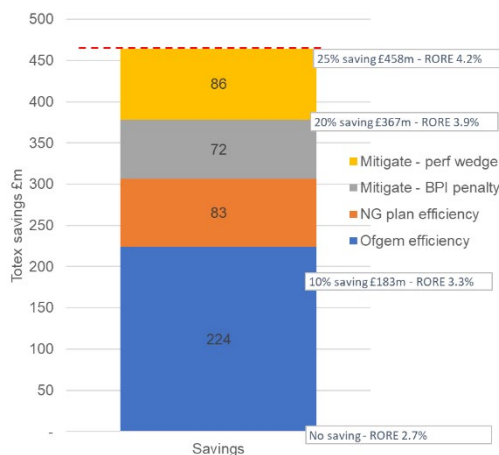
Summary

Ofgem's Draft Determination has resulted in totex disallowances that are world apart from previous regulatory decisions, with a total of £4.8bn of costs disallowed equating to a reduction of 48% across Transmission. NGGT starts RIIO-2 with allowances of around three quarters of its RIIO-1 spend to run and maintain the transmission network. A large part of this reduction is an unprecedented and unjustified 12% cost efficiency against the allowed volume. We set out the evidence for why this level of efficiency is unjustified in response to the NGGT document. This is the equivalent of £224m totex savings across the period. If we were to deliver no savings from our current operations this would result in a 71bps underperformance.

We had already embedded totex efficiencies of £83m into our plan, including the highest productivity assumption across all networks and the savings from our ambitious end of RIIO-1 period restructure. These have not been fully delivered yet and add 26bps to the challenge from our current cost base.

The downside risk before RIIO-2 even starts is represented by the graph below which shows that to close the gap to allowed return we would have to deliver the volume of work allowed in the DD for 25% less than our current operations. Given the nature of the RIIO-2 framework, this position could be worse. Of the £1.53bn baseline totex allowances included in the DD, we are only incentivised on £1.1bn. The remaining 31% is subject to true up and claw back meaning we would not receive any benefit from innovations to reduce cost. When this is factored in, we would have to deliver 43% of totex savings from our current operations to achieve the allowed equity return.

Figure GT1 – Starting RoRE and totex savings gap to deliver allowed equity return



GTQ3. Do you agree with the UM package that we are proposing for the GT sector?

In terms of the areas highlighted for addressing via UM, these are broadly as proposed as NGGT other than we are proposing an additional UM on climate change, please see text below. However, we have serious concerns around the UM framework as set out in our response to Core Q12.

For Gas Transmission we have a fundamental concern about the use of reopeners within the RIIO-2 price control settlement. Ofgem have moved from a proportionate £650m to circa £1bn of UMs or 40% of our controllable costs. Ofgem has created a vast, sprawling, granular regime relating to uncertainty mechanisms that involves micromanagement and second guessing of business decisions in many areas. Project delays caused by uncertainty of funding have the potential to have a negative impact on consumers, and this is a particularly key issue given the amount of the NGGT plan being subjected to reopeners

While some reopeners serve a sensible function, some remove a risk that National Grid is well placed to manage; introducing a further level of regulatory burden, complexity and uncertainty on us and our stakeholders (including on the charges our customers and consumers will incur). We note in this regard LECG’s October 2009 research paper for Ofgem¹ which concluded (among other things) that a shift away from ex ante regulation would raise the level of uncertainty investors faced and may therefore require a higher cost of capital. We have proposed some solutions below to address some of our serious concerns with Ofgem’s UM proposals.

Provision of ex-ante development allowances

Many of our reopeners include provision of allowances to reach a reopener point later in RIIO-2. However, these are not proposed as true ex-ante allowances and set out arrangements for true-ups at the reopener point. For many of our projects, pre-construction costs can be reasonably estimated. Therefore, ex-post efficiency reviews of these pre-construction activities will be intrusive, time consuming and add lengthy delays at a time when agility and flexibility is critical, and be resource intensive across network companies, Ofgem and our stakeholders. To be able to deliver at the pace required we require pre-construction works to be funded as ex-ante allowances. We have set out as part of our responses to NGGT24 (compressors), NGGT27 (Bacton and King’s Lynn subsidence) NGGT37 (asset health) further justification for the development costs proposed in order to provide sufficient confidence for Ofgem to agree for these to be true, ex-ante baseline costs where appropriate.

In some circumstances, provision of ex-ante allowances is not appropriate. For example, where it is not possible to determine pre-construction development costs and / or some work delivery is required to determine an efficient cost, e.g. asset health theme of plant and equipment, or for

¹ <https://www.ofgem.gov.uk/ofgem-publications/52031/final-report-ex-post-regulationpdf>

compressor unit deposit costs which can change according to wider contract arrangements. In these cases, a baseline allowance which could be subject to true-up is more appropriate. Ofgem should provide ex-ante baseline allowances for pre-construction works. Please see our responses on NGGTQ24 (compressors) and NGGTQ37 (asset health) for more information.

Managing financeability and volatility caused by uncertainty mechanisms

Ofgem's proposal to exclude reopeners from their proposal to forecast outputs and allowances results in unnecessary volatility in the charges our customers and consumers will incur. Without forecasting, our analysis suggests year on year entry and exit charges increasing by 49% and 36% (pre-inflation) in the final year of the price control. For many of the proposed reopener uncertainty mechanisms, the need has already been established. Uncertainty only exists in the precise scope or cost of activities. In these circumstances, volatility can be removed by firstly aligning our baseline allowances with likely spend and adjusting from that position. This approach was proposed as part of our business plan and would remove many of the problems which the overuse of reopener uncertainty mechanisms has introduced. This combined with the inclusion of reopeners within the forecasting framework would reduce revenue and therefore charging volatility, in particular the significant uplift we see in customer charges in the final year of RIIO-2 if Ofgem's proposed forecasting approach were applied.

Ofgem should align baseline allowances with likely spend and include a forecasting framework to reduce revenue and charging volatility.

Please see our response to Finance Q35 which includes analysis to support our arguments.

Lack of framework clarity and consultation

It is vital that the process through which uncertainty mechanisms proceed is clearly established ahead of Final Determinations. The lack of full visibility of the licence conditions and associated reopener guidance against which submissions will be assessed is concerning. To reach a view on the reopener framework, we expect Ofgem to fully consult on the guidance with stakeholders to ensure the impact on the industry and network companies price controls is fully understood and considered. These licence conditions and the associated reopener guidance should:

- Clearly establish a route of appeal to the CMA in respect of Ofgem reopener decisions which have a significant and material impact on the overall price control package;
- Provide a commitment from Ofgem to decision making timescales to avoid project delay, to avoid adversely impacting the efficiency of the reopener process, our planning and execution of work, utilisation of system access outages and contracting with the supply chain; and
- Not provide Ofgem with the ability to trigger reopeners unilaterally at any point within the price control period, creating uncertainty for us, our customers and the supply chain.

Concern around reopener decision timelines

As set out above, project delays caused by uncertainty of funding have the potential to have a negative impact on consumers, and this is a particularly key issue given the amount of the NGGT plan being subjected to reopeners. It is therefore important that Ofgem make timely decisions on reopeners. We therefore do not support the concept of an open-ended period within which Ofgem would arrive at its decisions. Our view is that there must be a clear deadline within which Ofgem must make reopener decisions otherwise this adversely impacts the efficiency of the reopener process, our planning and execution of work, utilisation of system access outages and contracting with the supply chain.

We would like to see Ofgem commit to decision making timescales for each type of reopener. We would be happy to work with Ofgem in developing such timescales. For example, in our recent engagements relating to compressor reopeners we provided information to Ofgem around when decisions would need to be made to ensure that projects would not be delayed.

Concern around reopener triggers

We also do not support the unilateral ability of Ofgem to trigger reopeners at any time. We do not believe in many cases that this would be necessary. For example, for major projects reopeners such as Bacton, there are already project defined trigger points which are due to be set out within the licence.

In certain cases, a price control reopener may be triggered by Ofgem at any time during the price control period. Yet there is no symmetric right for companies, only a time limited and carefully circumscribed set of narrow reopener windows. The critical Net Zero reopener can only be triggered by Ofgem (and is not clearly defined). This creates a huge risk for companies, who again would be exposed in full to downside risk, while Ofgem has the ability to reopen at any time in the price control in the event of an unforeseen upside emerging. We also note the burden placed on an already stretched stakeholder community to engage continuously through the RIIO-2 period to allow the opportunity to have their voice heard in all reopener decisions.

Requirement for a route to CMA appeal

The route to challenge re-openers is not an issue covered explicitly in the Draft Determination. Price control determinations are subject to statutory appeal to the CMA as a consequence of being introduced through licence modification. In RIIO-1, for re-openers contained in pre-existing licence conditions, following any re-opener decision Ofgem would direct a change to the licence, without a right of appeal to the CMA against that decision. Under Ofgem's RIIO-2 proposals the breadth of uncertainty mechanisms across the price control is much wider. There are a range of areas which have a significant and material impact on the overall price control package and NGGT's activities during the period and/or relate to new and untested licence mechanisms. In these areas, which include for example incremental obligated entry and exit capacity and the Bacton, St Fergus and Wormington project net zero reopener decisions, it is vital that a route of appeal to the CMA is included in RIIO-2. This will require Ofgem to follow the statutory process to modify the relevant licence, as opposed to making directions under a pre-existing licence condition. We have discussed this issue previously with Ofgem through the RIIO-2 Licence Drafting Working Group. We will continue to work with Ofgem to identify areas where it is vital to retain a route of CMA appeal and will cover this issue further in our response to Ofgem's September licence drafting consultation.

Ability to respond to reopeners

Ofgem has assumed that all indirect activities flex with capital plan and reduced our baseline CAI opex allowances by 60%, not recognising that we will need indirect costs to support the many reopeners proposed under RIIO-2. Therefore, we are not sufficiently funded support these reopeners. Please see NGGT question 31 for more information.

Specific uncertainty mechanisms

Our views on specific uncertainty mechanisms are summarised below. Please see the individual question responses for detail on each area:

Major projects reopeners (NGGTQ24, NGGTQ27)

These cover compressor emissions compliance and proposed investments at Bacton and to address subsidence at King's Lynn compressor site. To be able to deliver at the pace required we require pre-construction works to be funded as ex-ante allowances. We have set out as part of our response further justification for the development costs proposed in order to provide sufficient confidence for Ofgem to agree for these to be true, ex-ante baseline costs where appropriate.

Asset health non-lead assets reopener (NGGTQ37)

In addition to cab infrastructure and plant and equipment areas Ofgem propose for the asset health UM, we are proposing to include the Civils sub-theme, Security and Fencing, Access and Buildings.

For non-lead asset health reopeners, whilst we agree that asset health works undertaken in these areas should be subject to true-up at the reopener point, we believe ex-post reviews of development works to be unnecessary as set out for major projects reopeners above. We ask Ofgem to provide an ex-ante allowance for development costs in line with the information we have provided.

We also propose a flexible reopener window in year 2, 3 or 4 to allow NGGT and Ofgem to agree suitable evidence requirements for each asset theme and allow the setting of ex ante allowances at the earliest opportunity in the price control.

Non-operational IT and telecoms reopener (COREQ18)

We support the overall concept of this reopener but believe that the initial assessment of the cost Ofgem propose to subject to this area is inaccurate. We propose to move £159m back to baseline, £69m as a result of inconsistencies in assessment between ourselves and NGET, and £90m based on further evidence provided. As above, we are asking Ofgem to provide ex-ante funding relating to development costs to reach a level of project maturity ahead of the reopener.

Net Zero reopener (COREQ23)

The critical Net Zero reopener can only be triggered by Ofgem and is not clearly defined. This creates a huge risk for companies, who would be exposed in full to downside risk, while Ofgem has the ability to reopen at any time in the price control in the event of an unforeseen upside emerging. We believe Ofgem need to better define this reopener and include a right to appeal new output requirements and funding decisions, given the potential high materiality.

Cyber resilience IT and OT (COREQ16)

We broadly support these reopeners set out in Ofgem's proposals, subject to the resolution of the broader framework points set out at the beginning of this section. However, close out arrangements need to be considered for cyber resilience OT in relation to the UIOLI allowance with no materiality threshold to ensure NGGT is held whole for relevant costs legitimately incurred in these areas.

Quarry and loss (NGGTQ36) and Pipeline diversions reopeners (NGGTQ35)

We broadly support the other reopeners set out in Ofgem's proposals, subject to the resolution of the broader framework points set out at the beginning of this section. However, we believe close out arrangements need to be considered for these reopeners with no materiality threshold to ensure NGGT is held whole for relevant costs legitimately incurred in these areas.

Physical Security (COREQ19)

We broadly support these reopeners set out in Ofgem's proposals, subject to the resolution of the broader framework points set out at the beginning of this section. We do not support there being a materiality threshold applied to this category or any other resilience categories, as these areas of expenditure stem from government mandated requirements. As such we propose the regulatory treatment should be consistent with Ofgem's position of no materiality threshold being applied for Cyber Resilience. If a materiality threshold were to be attached to the mid-period reopener, then the end of RIIO-2 closeout reopener should operate with no materiality threshold in a similar manner to that for pipeline diversions.

Incremental Capacity (NGGTQ34)

We support the move from generic to case-by-case assessment and the proposed reopener parameters. However, further work is required to develop the reopener process and requirements further. We propose incorporating elements of the major projects reopener process such as the inclusion of an initial needs case assessment earlier in the reopener design and are happy to work with Ofgem to develop the process further.

GT Opex escalator (NGGTQ31 and NGGTQ38)

We support the principle of setting an ex-ante allowance for the incremental indirect costs associated with delivering capital projects that are agreed through reopeners. However, we see two fundamental issues with the mechanism as currently proposed by Ofgem in their Draft Determination. Related to the assessment of baseline indirect costs, Ofgem's proposed allowances represent a 40% reduction to our proposed costs after adjusting for baseline workload, for which no escalator mechanism can adequately compensate. Secondly, the proposed 0.754% uplift for

every 1% of capex is based on a coefficient from a biased model and does not accurately compensate for efficient incremental indirect costs.

Pass through reopeners and indexation

We support the remaining pass-through and indexations proposed. We require further clarity on how Ofgem intent to allocate these costs across the Transmission Owner and System Operator. Our expectation is that the CDSP costs will form part of the System Operator revenues, the remainder being Transmission Owner related with both forms of control requiring a bad debt adjustment term. Ofgem uses both “non-controllable opex” and “pass through costs” terminology interchangeably to refer to the licence fee, business rates, bad debt adjustment, CDSP, Independent Systems Adjustment and policing cost adjustment. We note that for the purposes of this question, the pass-through costs incurred and charged by the Gas System Operator, being shrinkage, operating margin service and residual balancing costs are excluded from the definition of pass through.

Proposed new reopener for climate change

In addition, we are proposing a new reopener for climate change. UK leadership depends on building resilience to climate change, a resilience which no UK sector has yet demonstrated for even a 2°C rise in global temperature. This is a moment to improve the effectiveness of national planning for the threats from climate change that are already inevitable, as well as the uncharted but potentially catastrophic change if higher levels of warming occur.” (Reducing UK emissions Progress Report to Parliament June 2020).

The CCC have identified adaptation as a priority action, planning for a minimum 2°C and consideration of a 4°C global temperature rise (by 2100 from pre-industrial levels). Despite temporary reduction in emissions from the COVID crisis, global greenhouse gas emissions are still on a pathway for 3°C or more of warming by 2100.

The ENA is actively working to secure the resilience of the energy network, to which aim the ENA has created the industry wide Adaptation to Climate Change Working Group to better report on and respond to climate change.

There is a risk that we will fail to deliver resilient assets to mitigate the impacts of climate change, due to a lack of understanding, knowledge and subsequent action. Consequently, we are actively seeking to understand how the nature, likelihood and intensity of hazards will change in line with the most up to date climate model (UKCP18 was released in 2019) and so assess the vulnerability of our network and the impacts and identify possible adaptation options. This will consider how multi-hazards (e.g. a combination of drought, high rainfall and high temperatures) will lead to physical impacts on our network. The result of this work is due in quarter one 2021 and we will need to act on the findings. As this is in progress, we can't yet say what the financial impact would be, only that it would be prudent to include a reopener in RIIO-2 should the models suggest we need to take immediate action (within RIIO-2) to ensure no adverse effects on our customers and maintain supply. We would like to discuss with Ofgem provision of a reopener in GT similar to the ET medium sized investment projects reopener which covers flooding for example.