

RIO-T1 Reopener Consultation – Industrial Emissions Costs

Consultation

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Overview:

The RIO-T1 price control includes two reopener windows for companies or Ofgem to propose adjustments to expenditure allowances for certain categories of costs that were deemed to be uncertain at the time of our Final Proposals.

This document sets out our initial views on National Grid Gas Transmission's application under the "Industrial Emissions costs" category of uncertain costs.

We welcome the views of interested parties on any of the issues set out in this document. Responses should be addressed to gasnetworks@ofgem.gov.uk no later than 29 August 2018. Unless clearly marked as confidential, responses will be published on our website. We will consider the response as part of our final determination which we will publish by the end of September 2018.

Context

RIIO-T1 and GD1 were the first price controls to reflect the new RIIO (Revenue = Incentives + Innovation + Outputs) model. The RIIO-T1 price control sets the outputs that the electricity and gas transmission network companies need to deliver for consumers and the associated revenues they are allowed to collect for the eight year period from 1 April 2013 until 31 March 2021.

For cost categories where there was significant uncertainty about expenditure requirements at the time of setting allowances, the price controls include a “reopener” mechanism. The mechanism allows network companies to propose adjustments to baseline expenditure allowances for these costs when there is more certainty. The reopener mechanism specifies two windows during which adjustments to allowances may be proposed – one in May 2015 and other in May 2018.

We have received reopener submissions for following cost categories:

- One-off Asset Health Costs (Feeder 9)
- Industrial Emissions Costs
- Enhanced Security Costs
- Enhanced Physical Site Security Costs
- Quarry and Loss Development Claim Costs
- Street Works Costs

The reopener process fits into priorities 3 and 4 of the 2018-2019 [Ofgem Corporate Strategy](#).

We are required to make a determination by 30 September 2018 on any application received through the reopener process.

Associated documents

[The Gas Transport Licence, Special Conditions, for National Grid Gas PLC \(NTS\)](#)

[Informal consultation on RIIO-1 price control reopeners \(May 2018\)](#)

[RIIO-T1: Final Proposals for National Grid Electricity Transmission and National Grid Gas](#)

[RIIO-T1: Final Proposals for National Grid Electricity Transmission and National Grid Gas: Cost assessment and uncertainty Supporting Document](#)

[RIIO-T1: Initial Proposals for National Grid Electricity Transmission and National Grid Gas](#)

[The RIIO-GT1 Price Control Financial Model](#)

[GT1 Price Control Financial Handbook – Version 2.0](#)

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Executive Summary

National Grid Gas Transmission (NGGT) operates a number of gas fired compressor units across its transmission network. These units emit gases that are covered by emissions control legislation which requires NGGT to take necessary steps to progressively reduce the level of emissions across its network.

At the time of setting our RIIO-T1 price controls, there was considerable uncertainty about the scope of works that would be needed to comply with emissions legislation. Consequently, we provided an allowance for work on three sites where there appeared to be greater certainty about costs (Peterborough, Huntingdon and Aylesbury). We provided a further uncertain allowance of £288.0m¹ for additional sites based on NGGT's forecasts and said that if NGGT's planned expenditure is different, we would adjust the uncertain allowance up or down. We put in place a reopener mechanism so that this allowance could be adjusted.

NGGT has now applied to reduce this uncertain allowance to £123.4m, its estimate of the cost of carrying out work that it considers necessary for emissions compliance across nine compressor sites.

Our initial views on NGGT's proposed works at these sites are:

- In the case of St Fergus and Hatton, we think that there remains considerable uncertainty about the precise solution and the costs associated with that solution. We think it is in consumers' interests to provide funding at a later date when there is greater certainty.
- In the case of Peterborough and Huntingdon, we think that the proposed works are required to meet outputs set as part of RIIO-T1, and that adequate funding has been provided across the three sites that were covered by those outputs. We clarified our position on these outputs as part of our Mid Period Review (MPR) parallel work decision in 2017.
- For the remaining sites, we do not consider that the proposed works are required to comply with emissions legislation, nor is emissions legislation a relevant consideration in reaching the decision on the proposed works. These works would have been required in the absence of emissions legislation, and are part of NGGT's day-to-day running of its network. There is one exception to this: we consider that some work done in Wisbech does qualify for funding under this reopener.

Following our assessment, our initial view is that NGGT has not substantiated its request to retain £123.4m of funding for emissions compliance, with the exception of £0.53m for work that has been done at Wisbech. We therefore propose to reduce the uncertain allowance to £0.53m.

¹ All financial values in this document are expressed in 2009/10 prices unless otherwise stated.

Next steps

This consultation will close on 29 August 2018. Please send in your response by emailing us at gasnetworks@ofgem.gov.uk.

In proceeding with a 21-day consultation we welcome engagement from interested stakeholders during the consultation period. The shorter period is driven by the licence requirement to conclude by the end of September and the time we need to respond more fully to comments made in the consultation, engage with interested stakeholders and revise our analysis if required.

Our decision will be implemented through the 2018 Annual Iteration Process, which will mean that any adjustment to NGGT's allowed revenues will take place from 2019/20.

1. Background

Chapter Summary

This chapter provides the regulatory history to the Industrial Emissions Costs reopener by explaining our position at various point of the RIIO T1 price control.

1.1. National Grid Gas Transmission (NGGT) operates a number of gas fired compressor units across the gas transmission network. These compressors maintain the pressure of gas on the network and help ensure that gas is transported across the network to areas where it is needed. The operation of gas compressors results in the emission of air pollutants (primarily carbon monoxide and nitrogen oxides), which NGGT is obliged under law to control and manage.

1.2. When we made our decision on the RIIO-T1 price control for NGGT, there was uncertainty around the obligations that would be placed upon NGGT by new legislation (the Industrial Emissions Directive, or the IED) that had not yet come into force. This legislation was expected to be implemented after we concluded our RIIO-T1 Final Proposals. Hence, we introduced a reopener mechanism in order to allow NGGT to seek funding for costs associated with emissions reduction, once there was more certainty about the specific requirements. The reopener mechanism includes two application windows, May 2015 and May 2018.

1.3. We have now received an application from NGGT as part of the May 2018 reopener mechanism.

1.4. In its business plan submission for RIIO-T1, NGGT had forecast expenditure of £813.5m to ensure compliance with emissions control legislation. We considered that NGGT's proposals were not sufficiently justified. More specifically, NGGT had not explored all available options in terms of technical solutions and available exemptions. In addition, we found that it had not fully justified its proposed costs for compressor replacement.

1.5. Following our assessment, we provided baseline funding of £142.7m² for emissions compliance at three sites. We said these would cover IPPCD (Integrated Pollution Prevention and Control Directive) phase 3 works at Peterborough and Huntingdon, and IED phase 1 work at Aylesbury.

1.6. We also acknowledged that NGGT may be required to undertake emissions compliance work at other sites as part of the next phase of works (which NGGT referred to as IPPCD phase 4 and IED phase 2 works). However, as NGGT's plans for these sites were not developed enough, we provided an allowance of £9m to work on and produce an integrated and cost effective plan to carry out works required to

² pg 98 [RIIO-T1: Final Proposals for National Grid Electricity Transmission and National Grid Gas Cost assessment and uncertainty Supporting Document](#)

comply with emissions legislation as part of IPPCD Phase 4 and IED Phase 2. We said that this plan would need to demonstrate comprehensive cost benefit analysis of all the engineering and commercial options available to NGGT.

1.7. Additionally, we included an uncertain allowance of £269.3m for the IPPCD Phase 4 and IED Phase 2 projects.³ The level of this baseline was based on the information provided by NGGT at the time. We said that if “*NGGT’s planned expenditure is different to this amount, we will adjust the baselines up or down*”⁴. It is this uncertain allowance that is the subject of the reopener submission.

The 2015 reopener

1.8. In May 2015 NGGT submitted a reopener application to increase its uncertain allowances by £41.0m⁵.

1.9. We rejected NGGT’s application for funding. In our view, NGGT had not considered all the options available to it in sufficient detail when developing its solutions for IED compliance. We stated that NGGT should “*include the costs and benefits of all considered options as part of its submission*”⁶.

1.10. In our decision, following on from NGGT’s representation, we acknowledged that to comply with emissions legislation, NGGT may need to incur expenditure before the next reopener window (May 2018). We said that “*any decision we make during the 2018 reopener will consider the information (eg current or any known future changes to legislation and/or policy) available to NGGT at the time of committing to any investment and will not rely on hindsight*”⁷.

Impact Assessment

1.11. We considered whether to undertake an Impact Assessment (IA) in line with the requirements of section 5A of the Utilities Act 2000. On balance, we do not consider it is necessary to undertake a formal section 5A IA. Licensees are required to ensure compliance with emissions legislation and our proposed adjustment in allowance is based on the scope of the re-opener as set out at the beginning of the price control, in the licence and Final Proposals.

³ The figure of £269.3m excludes the IQI adjustment and additional allowances for real price effects (RPEs). The final allowance included in NGGT’s baseline allowance is £288.0m, this includes IQI and RPE adjustments.

⁴ pg 99 [RIIO-T1: Final Proposals for National Grid Electricity Transmission and National Grid Gas Cost assessment and uncertainty Supporting Document](#)

⁵ [pg 1 RIIO-T1: Our decision on National Grid Gas Transmission’s application under the RIIO-T1 Compressor Emissions uncertainty mechanism \(2015\)](#)

⁶ pg 3 *ibid*

⁷ pg 4 *ibid*

1.12. However, Chapters 3 and 4 explain our overall assessment and explain how we formed our overall view. As such, our decision explains how we arrived at the proposed adjustment. For these reasons, we do not consider it necessary to publish a formal section 5A IA, and it would in any event be duplicative given the information contained in Chapters 3 and 4.

2. NGGT’s 2018 Application

Chapter Summary

This chapter provides an overview of NGGT’s submission as part of the May 2018 reopener.

2.1. NGGT’s application as part of the May 2018 reopener is a proposal to make a reduction to the uncertain allowance of £269.3m provided for IPPCD Phase 4 and IED Phase 2 work to be undertaken by NGGT during the RIIO-T1 period.

2.2. NGGT has developed an integrated plan to carry out works required to comply with emissions legislation as part of IPPCD Phase 4 and IED Phase 2. The outcome of this plan is that NGGT believes that the work required to comply with emissions legislation has substantially reduced in scope, relative to its business plan submission for RIIO-T1 as well as its submission as part of the 2015 reopener.

2.3. NGGT now believes that the expenditure required as part of IPPCD Phase 4 and IED Phase 2 during the RIIO-T1 price control period is £123.4m. Consequently, NGGT has proposed a reduction of £157.1m to the uncertain allowance based on its view that it had been given a baseline allowance of £280.5m.⁸

2.4. NGGT’s proposed expenditure of £123.4m includes a variety of interventions across nine compressor sites. Table 1 provides a summary of the proposed works and RIIO-T1 expenditure at each site.

Site	Proposed works during the RIIO-T1 period	Allowance requested (09/10)
St Fergus	Preliminary engineering, design and procurement work relating to emissions reduction and compliance work on two compressor units. The actual solution at these sites would only be delivered during RIIO-T2.	£24.7m
Huntingdon	Installation of a new 15.3 MW gas compressor.	£27.1m

⁸ We think that the level of baseline funding provided for emissions-related work is slightly higher (£288m). This is discussed further in Chapter 4.

Peterborough	Installation of a new 15.3 MW gas compressor	£30.9m
Carnforth-Nether Kellet	Decommissioning of compressors at Carnforth. Work to integrate the Carnforth and Nether Kellet compressor sites.	£3.2m
Hatton	Preliminary engineering, design and procurement work relating emissions reduction and compliance work on one compressor unit.	£18.9m
Moffat	Asset health work to maintain the existing compressor units.	£11.1m
Warrington	Decommissioning of two compressors.	£4.2m
Wisbech	Conversion of a Maxi Avon unit into an Avon unit to comply with the Large Combustion Plant directive (LCP). Asset health work to maintain other units.	£1.4m
Kirriemuir	Decommission one unit (currently disconnected).	£2.0m
Total		£123.4m

Table 1 Summary of proposed works

2.5. Further details of the proposed works and the cost benefit analysis carried out by NGGT to support its choice of work at each site can be found in NGGT’s submission⁹.

⁹ <https://www.ofgem.gov.uk/publications-and-updates/informal-consultation-riio-1-price-control-reopeners-may-2018>

3. Our assessment

Chapter Summary

We assess NGGT’s submission by site, assess their analysis and develop our initial views based on their submission.

Question box

Question 1: What is your view of our proposed treatment of the planned works at St Fergus and Hatton?

Question 2: What is your view of our proposed treatment of the planned works at Peterborough and Huntingdon?

Question 3: What is your view of our proposed treatment of the planned works at the remaining sites?

Background

3.1. The gas transmission licence defines the costs that are eligible to be considered as part of the emissions uncertainty mechanism. These are defined as:

“costs incurred, or expected to be incurred, by the Licensee in relation to works triggered as a result of emissions related legislation, such as Directive 2008/1/EC of the European Parliament and of the Council of 15 January 2008 concerning integrated pollution prevention and control, and Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control).”

3.2. NGGT’s submission covers different types of work across nine compressor sites, reflecting NGGT’s views on the most efficient method of complying with emissions control legislation at these sites. The proposed solutions, costs and delivery timings vary significantly across these sites.

3.3. As part of our assessment, we have grouped the nine compressors sites into three categories – based on the nature of the solution being proposed at each site. There are a number of similarities between the assessments for each site in a category. These categories are:

- Sites where there remains considerable uncertainty about the nature and scope of the efficient solution for compliance with emissions legislation. These include the St Fergus and Hatton compressor stations.
- Sites where the proposed work overlaps with work that has been funded elsewhere as part of the RIIO-T1 price control. These include the Peterborough and Huntingdon compressor stations.
- Sites where the proposed work is, in our view, outside the scope of works that can be funded through the IED reopener. These include the

remaining five sites (Moffat, Carnforth-Nether Kellet, Warrington, Wisbech and Kirriemuir).

3.4. We now set out our initial views on NGGT’s proposed work at each site.

St Fergus and Hatton

Context

3.5. St Fergus is one of the highest utilisation compressor sites on the national gas transmission system (NTS). Compressors on the site are required to raise the pressure of gas supplied through the St Fergus gas terminal. According to NGGT, St Fergus is one of the more heavily utilised and highest polluting sites on the NTS. It is captured by both the IPPCD and LCP elements of the IED.

3.6. Hatton compressor station is used to facilitate gas flows from terminals in the north such as St Fergus and Easington, supports interconnector flows at Bacton and provides compression flows to and from storage sites in the north west of the UK.

3.7. NGGT’s submission states that, at both St Fergus and Hatton, it has identified a number of options that could reduce the level of emissions from the site and therefore comply with applicable legislation. For each site, it has carried out a cost benefit analysis (CBA) that includes all of these options to identify the option that delivers the most benefits to consumers.

3.8. At St Fergus, the results from NGGT’s CBA show that two options perform best under its assumptions about future gas flows and required running hours. One of these options, involves emissions abatement technology on two units (at a cost of £73m) and the other option involves emissions abatement on one unit and installing a new compressor unit (at a cost of £76m).

3.9. According to NGGT, the option involving installing a new unit performs marginally better than the other option. NGGT has put forward both options to the next stage in NGGT’s investment appraisal process (i.e. front end engineering design, or FEED). It expects to take a final decision on its preferred solution at St Fergus by 2019, and the solution implemented and commissioned in 2023/24. NGGT’s funding request for St Fergus is based on the costs associated with option 10b (emission abatement on one unit and one new unit).

3.10. At Hatton, the results from NGGT’s CBA show that an option that involves installing one new 30MW compressor unit is the most efficient long term solution. Under this option, all existing gas compressors at Hatton would be decommissioned by 2023. NGGT’s funding request for Hatton is based on the cost of this option. However, its submission states that the final decision on the most appropriate solution would only be taken once the FEED study has been completed in 2019, which would consider other options including fitting emissions abatement technology on existing compressors. It is possible that emissions abatement on existing compressors would be cheaper and a better solution than installing a new

compressor unit. Work on the selected option would commence in 2019 and would be delivered by 2024.

Our view

3.11. NGGT's submission and cost benefit analysis for both St Fergus and Hatton suggest that there remains considerable uncertainty about the solution that would deliver the most benefits for consumers.

3.12. NGGT has considered a broad range of options as part of its CBA, and has indicated that the determination of the most efficient solution is sensitive to assumptions about the future use of the compressor sites and the technical feasibility of alternative technologies, such as emissions abatement technology.

3.13. As the time of this submission, NGGT had not yet selected its preferred option at either site. It would only do so in 2019 at the earliest following the completion of its FEED work.

3.14. At St Fergus, we are not convinced by NGGT's CBA and its conclusions. For instance, we note that the proposed works would maintain the compression capability at the site, partly with a view to new emissions restrictions that may come into force by 2030. We are not convinced that it is appropriate to carry out work now (as part of IED compliance work) in anticipation of restrictions that may or may not apply after 2030. The precise requirements beyond 2030 would become clearer in the future, and the most efficient long term solution at St Fergus for consumers may look different then.

3.15. At Hatton, NGGT has indicated that the determination of the most efficient solution would depend on the outcome of its FEED study, which would look at a broad range of options, including those involving fitting emissions abatement technology on existing gas compressors at a lower cost than installing a new 30MW gas compressor.

3.16. Given the level of uncertainty about the eventual solutions, and the fact that NGGT has not yet decided on the most appropriate course of action, we do not believe that there is sufficient certainty to provide funding now through this reopener process. We think that the FEED studies at both sites would provide a more robust basis for deciding the most efficient solution.

3.17. Moreover, the earliest anticipated commissioning date for the proposed works at both sites is 2023/24, which is 6 years away.

3.18. We think that the RIIO-T2 price control provides a more appropriate funding route for any expenditure for emissions compliance at St Fergus and Hatton. The RIIO-T2 price control period will start in April 2021 and the assessment process is expected to commence in late 2019. We will consider providing appropriate funding as part of the RIIO-T2 settlement as long as NGGT is able to justify the need for the investment, the solution chosen, and the level of efficient costs.

3.19. To the extent that NGGT needs to incur expenditure at either St Fergus or Hatton on compliance with emissions legislation during the RIIO-T1 period, we would consider providing appropriate funding as part of the close out process for RIIO-T1, provided NGGT is able to demonstrate that the expenditure was necessary, proportionate and efficient.

3.20. We intend to work with NGGT in the coming months to agree a process by which NGGT can apply for appropriate funding for works at St Fergus and Hatton, and the information that we would be looking for from NGGT to support its application.

Peterborough and Huntingdon

Context

3.21. We have assessed NGGT's planned expenditure at Peterborough and Huntingdon, taking them together due to the similarities in the proposed solutions at these sites and their common price control history.

3.22. Both Peterborough and Huntingdon are critical compressor sites and are two of the highest usage sites on the NTS. Both units have three Avon gas compressor units each, of which two units are frequently run in parallel. This means that the sites suffer from high Nitrogen Oxides emissions, and are high on the priority list for emissions reduction work.

3.23. In its business plan submission for the RIIO-T1 price control, NGGT had requested funding for one 35MW compressor unit each at Peterborough and Huntingdon as part of its IPPCD Phase 3 works at a cost of approximately £52m each.

3.24. Following our assessment of NGGT's business plan, we published our RIIO-T1 Final Proposals, in which we said that NGGT's proposed solution for Peterborough and Huntingdon were oversized, and that one smaller (24MW) unit would be sufficient at each site. We provided an allowance of £42.5m at each site for IPPCD Phase 3 work, based on the cost of one 24MW Electric Variable Speed Drive (VSD) unit at each site.

3.25. In its submission during the 2015 reopener window, NGGT had told us that it had changed its view on the most efficient solution at both Peterborough and Huntingdon. Instead of a single large electric unit at each site, the most efficient solution is three small gas compressors at each site. Each small gas compressor is considerably cheaper than the 24MW electric compressor that we had originally provided funding for.

3.26. Moreover, NGGT indicated that it intended to treat only one of the three cheaper small units at each site as being delivered against the more expensive phase 3 output that was funded as part of our RIIO T1 Final Proposals.¹⁰

3.27. NGGT said that it wanted to treat the other two small units as being part of the next phase of works (i.e. phase 4), and included a request for additional funding of between £50m-100m each at both Peterborough and Huntingdon for those two units.

3.28. While we did not directly address NGGT's proposals for splitting its preferred solution into two phases for funding purposes, we said that:

*"We do not believe that NGGT has fulfilled the specific requirements we set out for the re-opener submission. In particular it has not included a cost benefit analysis of its revised plan to justify the additional expenditure, clearly identifying all assumptions made we think full demonstration of the costs and benefits of each option is an important part of the stakeholder engagement"*¹¹.

3.29. In its response to our consultation, NGGT said that:

*"Peterborough and Huntingdon are very similar sites, therefore for the purposes of this CBA we only discuss Peterborough, but the results are equally as applicable to Huntingdon. At Peterborough there are three medium sized compressors and we have secured funding under IPPC3 to install one new unit. In our submission we have proposed to install a further unit under the continuing requirements of IPPCD and this has been agreed with the Environment Agency as part of the Network Review process. This recognises that even though we will be installing one new unit under IPPC3, Peterborough will still be one of the most polluting sites, as shown in the emissions data within Appendix 3. Two units are required at both sites to meet our 1 in 20 obligations in the South East and South West exit zones"*¹².

3.30. In our consultation document on the scope for a mid-period review for RIIO-T1 and GD1, we said:

"Since the RIIO-T1 price control was set NGGT informed us [...] that it will be delivering projects at three sites [Peterborough, Huntingdon and Aylesbury] that are significantly different to the outputs specified in IP and FP. More specifically, for Peterborough and Huntingdon, NGGT has opted to install smaller gas turbine units instead of the larger VSD units that were specified in IP and FP and to which funding was tied. For Aylesbury, NGGT was funded for building two new compressor units specified as outputs in IP and FP but instead delivered a cheaper catalyst solution. We consider that the projects delivered are not aligned with the outputs set in RIIO-

¹⁰ pg 18, IED Investments: Ofgem Submission (Not in the public domain)

¹¹ pg 8, NGGT has fulfilled the specific requirements

¹² Pg15, https://www.ofgem.gov.uk/sites/default/files/docs/2015/09/nggt_ied_response_-_public.pdf

T1. As mentioned the ex ante allowances reflect projects of different scope and size. In light of the above and current cost information, NGGT are expected to underspend by 30-50% on the allowances, ie by £50-75m.¹³

3.31. In its response to this consultation, NGGT said:

"The actual and specified output in Final Proposals at Peterborough and Huntingdon is to deliver emissions reduction at these sites, in agreement with the environmental agencies that complies with the requirements under IPPCD. Ofgem specified a particular unit size and drive type to create an allowance. However the actual drive and engine size is determined by a Best Available Technology (BAT) assessment, as obligated by the environmental agencies, and the overall network capability requirements for the station as a whole. It is also dependent on the products available from the market.

In the case of Peterborough and Huntingdon the application of BAT resulted in a decision to install smaller, gas units, compared to the allowance for 24MW electric units. However, as part of Final Proposals in the unit cost allowances provided by Ofgem, funding was not provided for exceptional costs e.g. land purchase, relocation of vent stack and replacement of control building. Therefore the actual difference between the baseline allowance provided and the current forecast costs is not material.

It should also be noted that Final Proposals did not state that the allowance would be adjusted by the size and type of unit installed. This would be a new arrangement more akin to an uncertainty mechanism, such as a revenue driver, rather than baseline funding. This approach could be worth considering for the future, assuming it is symmetrical, but risks incentivising the wrong behaviour and discouraging innovation and therefore would require detailed evaluation.¹⁴

3.32. NGGT's 2018 reopener submission now says that the most efficient solution at Peterborough and Huntingdon is two new small gas compressors at each site. NGGT says that one of these units has already been funded as part of the baseline allowances, and has now requested funding for one new gas compressor unit each at Peterborough and Huntingdon at a cost of £30.9m and £27.1m respectively. NGGT's submission also says that the second unit at each site should be treated as being part of IPPCD phase 4 and therefore funded separately.

Our view

3.33. In assessing NGGT's submission for Peterborough and Huntingdon, it is necessary to consider funding that has already been provided for these sites, and whether it is appropriate for additional funding to be provided.

¹³ pg 29, [Consultation on a potential RIIO-T1 and GD1 mid-period review](#)

¹⁴ NGGT's response to one of our supplementary questions.

3.34. In 2011/2012, NGGT’s proposed solution for emissions compliance at Peterborough and Huntingdon was to install one new large 35MW VSD compressor unit at each site as part of IPPCD Phase 3 works. While we disagreed with the size of the proposed new units, we agreed that a large electric unit would be the right solution and provided funding on that basis.

3.35. Sometime after our funding decision, NGGT undertook further analysis including a Best Available Technique (BAT) assessment which concluded that the best solution at these sites was not one large unit, but instead three small 15.3MW gas units. NGGT subsequently revised its assessment to two small 15.3MW gas units at each site.

3.36. NGGT’s current view is that, at each site, one of those 15.3MW units should be treated as meeting the requirements of IPPCD Phase 3 (which has been previously funded, and the other 15.3MW unit should be treated as being part of IPPCD Phase 4 works (which is subject to this reopener).

3.37. At this point, it is instructive to review what NGGT has told the Environment Agency (EA), the competent regulatory authority in England for emissions compliance. NGGT’s process for compliance with emissions legislation involves agreeing a programme of works with the EA. This programme of works is set out in NGGT’s annual Network Review documents that are submitted to the EA¹⁵.

3.38. Reviewing NGGT’s Network Review submissions to the EA, it appears that NGGT’s proposals to the EA on the most appropriate solutions for IPPCD Phase 3 works (referred to as Emissions Reduction Projects Phase 3 works in the Network Reviews) at Peterborough and Huntingdon have changed considerably since 2012.

- In 2012, NGGT told the EA that the appropriate Phase 3 solution at these sites was as set out in its RIIO-T1 business plan submission to Ofgem (i.e. one 35MW VSD at each site).
- In 2014, NGGT told the EA that, partly due to the costs associated with securing connections to the electricity networks, electric (VSD) units were no longer viable, and that the appropriate solution for Phase 3 works at these sites would involve low emissions gas units.
- In 2015, NGGT told the EA that the best solution for Peterborough and Huntingdon for Phase 3 works was to install three new low emissions gas units at each site but that only unit had been funded.
- In 2016, NGGT provided an update on its Phase 3 works at Peterborough and Huntingdon. It told the EA that it had placed an order for two new low emissions gas turbines at Peterborough and that the best solution at

¹⁵ Relevant network reviews are published alongside this document.

Huntingdon was three new gas units. It mentions that these units will be Phase 3 and Phase 4 works.

- In 2017, NGGT explicitly told the EA that it would split the new gas units at Peterborough and Huntingdon into Phase 3 and Phase 4 works, i.e. one unit at each site would be delivered as part of Phase 3 and the other as part of Phase 4.

3.39. These statements make it clear to us that the proposed programme of works at Peterborough and Huntingdon were initially treated by NGGT for the purposes of its engagement with the EA as being part of Phase 3 works. The 2016 Network review document introduces some ambiguity by referring to the work at Peterborough and Huntingdon as being part of Phase 3 (in the main text) and as being part of Phase 3 and Phase 4 (in a table and in Appendix 3). The splitting of new units at these sites into the two phases was set out clearly for the first time in the 2017 Network Review. Moreover, it is clear to us that NGGT's current solution of new gas units at each site was identified in 2015 as a superior alternative to its original plan of one new large VSD unit at each site, for both cost and operational reasons.

3.40. In our MPR parallel work consultation on the interpretation of the outputs set for Peterborough, Huntingdon and Aylesbury, we said:

"Our proposed approach is to focus on the output purpose: compliance with the IED.

We will consider the output delivered if NGGT can justify that it complied with the IED in a manner which has delivered the greatest value to consumers. We expect NGGT to justify its approach, which would need to consider wider implications such as network capability.¹⁶"

3.41. In response, NGGT said that:

"Within our original business plan compressor solutions were proposed and we were explicit that the solutions may change to take account of changing circumstances, including innovation, as the schemes were developed further. In the accepted Final Proposals, the outputs in relation to the compressor projects at Peterborough, Huntingdon and Aylesbury were defined as outcomes i.e. compliance with specific emission legislation. NGGT did not commit to an output to deliver a particular solution. Therefore we believe that to adopt a different approach to that proposed by Ofgem, within this consultation, would be inconsistent with the basis of the RIIO-T1 deal.¹⁷"

¹⁶ pg 13, [Mid Period Parallel Work Consultation](#)

¹⁷ Pg 1, [Re: Consultation on the mid-period parallel work \(NGGT response\)](#)

3.42. In our decision document we said: “we have decided to maintain our approach. We will consider the output delivered if NGGT complies with the IED, in a way that delivers the greatest value to consumers.¹⁸”

3.43. We think our statements and NGGT’s response as part of the MPR parallel work provide a clear basis for the assessment of NGGT’s funding application as part of the 2018 reopener.

3.44. In our Final Proposals for RIIO-T1, we provided funding, and set outputs, for NGGT to deliver emissions compliance work at Aylesbury, Peterborough and Huntingdon. Moreover, in the Mid Period Review (MPR) Parallel Works Decision we said that we would not hold NGGT to account to specific compressor sizes or technologies, instead we would consider the output delivered if NGGT complies with the IED in a way that delivers the greatest value.

3.45. NGGT’s own analysis now concludes that the most efficient solution for emissions compliance at Peterborough and Huntingdon is to install two new small gas units – not one large electric unit as it originally said.

3.46. On the question of funding, we believe that we should adopt a consistent approach across all three sites that were provided baseline emissions compliance funding as part of RIIO-T1, i.e. Aylesbury, Peterborough and Huntingdon.

3.47. At Aylesbury, NGGT had originally said (in its RIIO-T1 business plan submission) that the most efficient solution for emissions compliance was to install two new gas units at a total cost of £74m. We accepted NGGT’s proposed solution and provided £62m of funding as part of NGGT’s baseline allowances. Together with the funding for Peterborough and Huntingdon, this formed the baseline allowance for emissions compliance.

3.48. Following our funding decision, NGGT carried out further work to assess the most efficient solution at Aylesbury and concluded that emissions abatement work on existing compressors (i.e. OxyCat) was the most efficient solution. This solution was considerably cheaper (by approximately £50m) than the solution that was originally funded. As part of our MPR parallel work decision, we concluded that although NGGT had made significant savings by changing the solution at Aylesbury, we would not claw back funding and would consider the output delivered if NGGT delivered emissions compliance in a way that delivers best value for consumers.

3.49. We think that it would not be in consumers’ interests, or consistent with our MPR parallel work decision, to treat Peterborough and Huntingdon differently. At these sites, NGGT changed its view of the most efficient solution after we had provided funding. In the case of Aylesbury, the revised solution turned out to be significantly cheaper than the one originally funded, and we allowed NGGT to retain the benefit of savings realised (subject to the Totex sharing factor) as long as it

¹⁸ pg 11, [MPR Parallel Work decision](#)

delivers the best value for consumers. In the case of Peterborough and Huntingdon, we would therefore expect NGGT to meet the cost of its preferred solution from the allowances provided (again subject to the sharing factor).

3.50. We think that the outputs set for NGGT at Peterborough and Huntingdon would only be delivered once the most efficient solution for emissions compliance at these sites have been delivered in full – and this is not affected by the number and sizing of units installed.

3.51. Moreover, we do not think NGGT should be able to access additional funding for delivering its outputs by simply splitting the work into different phases on paper. For all practical purposes, the work at each site is being done as a single project. Both units were procured at the same time and are being installed as part of a single programme of works at each site.

3.52. For all of these reasons, we are proposing to reject NGGT’s request for additional funding at Peterborough and Huntingdon. We will continue to hold NGGT accountable for delivering its output at these sites, which is to deliver emissions compliance work at these sites in a way that delivers the greatest value to consumers.

The remaining sites

3.53. This section looks at NGGT’s funding request at all other sites.

Moffat

3.54. Moffat was designed to provide network compression to move gas from Scotland to the south. The site has two gas (RB211) compressor units, both of which were installed in 1980 and are approaching the end of their technical asset lives (40 years).

3.55. In 2016, both units at Moffat were placed under the emergency use derogation, which limits their running hours to less than 500 hours a year. The two units at Moffat have been running at below 500 hours since 2009, so this limitation has had no practical impact on running hours. NGGT’s forecast running hours at these sites are at very low levels and NGGT has concluded that the site is no longer required.

3.56. Having assessed its options, NGGT has concluded that the most efficient option is to retain the sites on the emergency use derogation and consider decommissioning in the future.

3.57. NGGT has requested funding of £11.1m during the RIO-T1 price control period to carry out asset health work on the units at Moffat to keep them operational. NGGT said that it had not included asset health costs for Moffat in its

original business plan submission for RIIO-T1 as it had originally planned to replace both units.

Carnforth Nether-Kellet

3.58. Carnforth and Nether Kellet are two compressor stations that adjoin each other but are physically separate, each with their own independent control systems and different maximum allowable discharge pressures. For network control purposes, NGGT considers the two sites as one.

3.59. Carnforth-Nether Kellet is used for bulk gas transmission, predominantly moving gas from the northern terminals of St Fergus and Barrow, down the west coast and towards the Midlands.

3.60. Carnforth has two RB-211 gas compressor units (installed in 1989 and 1992) and one LM2500 gas compressor (installed in 2000). Nether Kellet has two smaller gas compressors installed in 2003. Emissions legislation affected the two RB-211 gas compressors at Carnforth. The other units are compliant with emissions legislation.

3.61. In 2016, the two RB-211 units at Carnforth were placed under derogations from emissions legislation. One unit was put on an emergency use derogation (i.e. up to 500 hours a year) and the other was put on a limited life derogation (i.e. to be decommissioned by 2023). NGGT's data show that both compressors have been running for very few hours (since 2013 at least), and the restrictions imposed by emissions legislation have had little or no impact on these units.

3.62. NGGT considered a number of options to determine the most efficient means of operating the site going forward, and concluded that the most efficient course of action is to decommission both units immediately. The submission includes a funding request of £3.2m to cover the cost of decommissioning the units.

Warrington

3.63. Warrington compressor station has two RB211 gas compressor units that were installed in 1984. The compression requirements have reduced significantly in recent years, with the units at the site running for an average of 34 hours per year over the past five years.

3.64. Both RB-211 units at the site were placed on the emergency use derogation in 2016, which caps the running hours at 500 hours per year. This means that the units are currently compliant with emissions legislation. NGGT expects that the site would not need to run for more than 100 hours per year for the foreseeable future.

3.65. Both units are close to the end of their technical asset lives and NGGT has identified some asset condition and obsolescence issues that need to be addressed to keep the site operational.

3.66. Given this, NGGT has concluded that the most efficient option for the site would be to decommission the site now. The submission includes a funding request of £4.2m to cover the cost of decommissioning.

Wisbech

3.67. Wisbech compressor station was originally intended to provide network compression to facilitate entry from terminals in the east coast. The site has seen a significant decline in compressor run hours in recent years, and its primary function is to provide resilience and back up support to the compressor sites at Peterborough and Huntingdon.

3.68. Wisbech has two gas compressor units that were installed in 1980, one unit is a RB211 gas compressor and the other is a “Maxi-Avon” unit, which was converted into a “standard” Avon unit in 2015.

3.69. The RB211 unit was placed on the emergency use derogation, which limits its annual running hours to less than 500. It is nearing the end of its technical asset life (i.e. 40 years), and it has been running for fewer than 100 hours a year since 2006.

3.70. The Maxi-Avon unit (which uses a more powerful variant of the standard Avon engine) was captured by the LCP element of the IED, and it was not compliant with emissions limits under the LCP. NGGT converted the Maxi-Avon to an Avon unit at a cost of £0.53m, which reduced the rated thermal input of the unit, therefore taking it out of the scope of the LCP. The site is now compliant with emissions legislation at least until 2030, when the Medium Combustion Plant (MCP) directive is expected to come into force.

3.71. NGGT has considered a number of options for the most efficient approach to operating the site in the future and concluded that keeping the station as it is now with the RB211 unit on the derogation is the most efficient way of operating the site for the future.

3.72. NGGT has identified the need for some asset health expenditure for the maintenance of the compressor units to keep them operational. The forecast expenditure on asset health for the RIIO-T1 period is £1.4m (which included £0.53m to convert the Maxi Avon unit to an Avon unit).

3.73. NGGT said that these asset health costs were not expected at the start of RIIO-T1 as the original plan was to replace both units during the RIIO-T1 period.

Kirriemuir

3.74. Kirriemuir compressor station has five compressor units located on the site. These include:

- Three Avon gas compressor units that were installed in 1977.

- One 35MW electric VSD compressor unit that was installed in 2015.
- One RB211 gas compressor unit that was installed in 1985.

3.75. Of the five units, only the RB211 unit is currently captured by emissions legislation. This unit was placed on a limited life derogation in 2016, which meant that the unit would need to be decommissioned by 2023. However, this unit suffered a failure in 2016, and has since been disconnected from the network.

3.76. NGGT has considered various options for the most efficient approach to operating the site in the future, and concluded that the best option is to decommission the RB211 unit to “plinth level” in 2020/21 at cost of £2.0m.

Our view on the remaining sites

3.77. Following our assessment, keeping in mind the scope of the Industrial Emissions reopener under the License, and the works and expenditure proposed by NGGT at the five compressor sites (Moffat, Carnforth-Nether Kellet, Warrington, Wisbech and Kirriemuir), we have serious reservations about the eligibility of proposed expenditure at these sites for consideration under the 2018 IED reopener mechanism.

3.78. At four of these sites (Moffat, Carnforth-Nether Kellet, Warrington and Kirriemuir), all compressor units on site are either fully compliant with current emissions legislation or benefit from a derogation from the requirement to comply. Furthermore, NGGT’s data on historical and forecast compressor running hours at these sites indicate that restrictions imposed by the derogation have not affected the operation of the sites, and are unlikely to affect it in the future.

3.79. This evidence suggests that no further work is required on these sites in order to comply with emissions legislation. The works being proposed at these sites fall into one of the following categories:

- Asset health work to keep compressors that are already on a derogation in good running order.
- Work to decommission compressors that are deemed to be no longer required for operational reasons. For the avoidance of doubt, all units being proposed for decommissioning are currently on derogations from compliance with emissions legislation.

3.80. We do not dispute that compressor units may require expenditure from time to time to keep them in good running order. Nor do we dispute that compressors that are no longer needed are good candidates for decommissioning. Nevertheless, we believe that work of this nature falls squarely within the type of work that NGGT would need to carry out on a business as usual basis across its network. Our initial view is that this work is not being incurred as a result of emissions legislation.

3.81. We said in our RIIO-T1 Final Proposals that we “*welcome NGGT’s revised approach consider potentially more cost-effective solutions in order to deal with the environmental legislation*”¹⁹ and acknowledged that NGGT was considering a wide range of options including decommissioning , retrofitting, exchange of non-compliant turbines etc. This does not mean that decommissioning is always the most efficient outcome or always driven by emissions compliance. NGGT may choose to decommission a compressor unit for a number of reasons. In the case of these sites, the decision to decommission appears to be driven by asset age, health and running costs – not emissions legislation.

3.82. At Wisbech, NGGT has undertaken work to convert a Maxi-Avon unit to an Avon unit, which takes the unit outside the scope of the LCP – therefore making it compliant with emissions legislation. NGGT has reported expenditure of £0.53m on this work. Our initial view is that this expenditure does qualify for funding under the IED reopener since it is incurred as a result of emissions legislation.

3.83. Our view is that the remaining asset health work at Wisbech (£0.87m) falls in the same category as the asset health work at other sites, and therefore is outside the scope of the IED reopener.

3.84. NGGT has said that it is requesting funding for ongoing asset health works because it had not expected to incur these asset management costs and therefore had not requested these costs in its RIIO-T1 business plan.

3.85. Our initial view is based on our assessment that the costs for these compressors are not driven by emissions compliance and as a result do not qualify for funding under the reopener mechanism. We think it is important in this instance that the reopener is not extended in scope to cover additional items. We think it would be unfair to consumers or the network companies to selectively include additional items and it could undermine the integrity of the price control.

¹⁹ pg 99, RIIO-T1: Final Proposals for National Grid Electricity Transmission and National Grid Gas Costs and Uncertainty Supporting Document

4. Our initial views

4.1. This chapter sets out our initial view and our proposed adjustment for NGGT’s requested allowances for industrial emissions costs.

4.2. As part of our RIIO T1 Final Proposals, we included an uncertain allowance of £269.3m (pre-IQI, excluding RPEs) for emissions compliance work during the RIIO-T1 price control period. We said that as part of this reopener we could adjust this allowance upwards or downwards to reflect updated information on expenditure required to comply with emissions legislation.

4.3. NGGT’s submission says that the expenditure required against these uncertain allowances during the RIIO-T1 price control period is £123.4m. We have assessed NGGT’s planned expenditure of £123.4m against the criteria set out in NGGT’s licence for this reopener. The table below sets out a summary of our initial view on NGGT’s proposed expenditure.

Site	NGGT’s proposed expenditure (£m, 2009/10 prices)	Our initial view
St Fergus	24.7	No funding now, because there is significant uncertainty about the solution and costs.
Hatton	18.9	No funding now, because there is significant uncertainty about the solution and costs.
Huntingdon	27.1	No funding. Proposed works are required to meet outputs set against previously provided baseline allowances.
Peterborough	30.9	No funding. Proposed works are required to meet outputs set against previously provided baseline allowances.

Moffat	11.1	No funding. The proposed expenditure is not within the scope of the IED reopener.
Carnforth-Nether Kellet	3.2	No funding. The proposed expenditure is not within the scope of the IED reopener.
Warrington	4.2	No funding. The proposed expenditure is not within the scope of the IED reopener.
Wisbech	1.4	Allow funding of £0.53m for conversion of the Maxi Avon to Avon. The rest of the proposed expenditure is not within the scope of the IED reopener.
Kirriemuir	2.0	No funding. The proposed expenditure is not within the scope of the IED reopener.
Total	123.4	

4.4. Following our assessment, we propose to allow NGGT to retain funding of £0.53m against the total uncertain allowance for IED work. This means that we would be making a downward adjustment to NGGT’s allowance as set out further below.

4.5. For the vast majority of sites, our initial view is that it is not appropriate to allow NGGT to retain funding for its proposed work. This is based on our view that the proposed works are either uncertain, already funded, or out of scope. It is possible that we might change our position on one or more of these sites between now and our final decision in September, particularly if additional relevant information comes to light as part of our consultation. In that case, we would assess the efficient costs of any work that we decide to allow as part of the reopener by scrutinising NGGT’s cost submission. In particular, we would look at the efficient costs of any new compressor units, and associated costs such as project management and risk allowances. We would apply relevant benchmarks for these

taken from our previous decisions and in a manner that is consistent with our assessment approach for other reopeners.

4.6. The table below sets out our proposed adjustment to NGGT’s baseline allowances. We believe that NGGT had been provided allowances at T1 of £288.0m post IQI including RPEs. We note that NGGT has a different view of the allowance provided (i.e. £280m). We will discuss with NGGT to try and resolve this difference before we reach our final decision in September 2018.

£m 09/10 prices	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	Total
Baseline uncertain allowance (Pre IQI and excl RPE)	-	1.6	16.0	48.1	64.1	63.6	44.2	31.6	269.3
Baseline uncertain allowance (Post IQI and incl RPEs)	-	2.3	17.1	50.5	67.9	67.9	47.51	34.8	288.0
Our proposed allowance	-	-	0.53	-	-	-	-	-	0.53
Our proposed adjustment to allowances	-	-2.3	-16.6	-50.5	-67.9	-67.9	-47.51	-34.8	-287.5

Next steps

4.7. This consultation will close on 29 August 2018. Please send in your response by emailing us at gasnetworks@ofgem.gov.uk.

4.8. In proceeding with a 21-day consultation we welcome engagement from interested stakeholders during the consultation period. The shorter period is driven by the licence requirement to conclude by the end of September and the time we need to respond more fully to comments made in the consultation, engage with interested stakeholders and revise our analysis if required.

4.9. Our decision will be implemented through the 2018 Annual Iteration Process, which will mean that any adjustment to NGGT’s allowed revenues will take place from 2019/20.

Appendix 1 - Feedback on this consultation

How to respond

1.1 We want to hear from anyone interested in this consultation. Please send your response to the person or team named on this document's front page.

1.2 We've asked for your feedback in each of the questions throughout. Please respond to each one as fully as you can.

1.3 We will publish non-confidential responses on our website at www.ofgem.gov.uk/consultations, and put it in our library.

Your response, data, and confidentiality

1.4 You can ask us to keep your response, or parts of your response, confidential. We'll respect this, subject to obligations to disclose information, for example, under the Freedom of Information Act 2000, the Environmental Information Regulations 2004, statutory directions, court orders, government regulations or where you give us explicit permission to disclose. If you do want us to keep your response confidential, please clearly mark this on your response and explain why.

1.5 If you wish us to keep part of your response confidential, please clearly mark those parts of your response that you *do* wish to be kept confidential and those that you *do not* wish to be kept confidential. Please put the confidential material in a separate appendix to your response. If necessary, we'll get in touch with you to discuss which parts of the information in your response should be kept confidential, and which can be published. We might ask for reasons why.

1.6 If the information you give in your response contains personal data under the General Data Protection Regulations 2016/379 (GDPR) and domestic legislation on data protection, the Gas and Electricity Markets Authority will be the data controller for the purposes of GDPR. Ofgem uses the information in responses in performing its statutory functions and in accordance with section 105 of the Utilities Act 2000. Please refer to our Privacy Notice on consultations.

1.7 If you wish to respond confidentially, we'll keep your response itself confidential, but we will publish the number (but not the names) of confidential responses we receive. We won't link responses to respondents if we publish a summary of responses, and we will evaluate each response on its own merits without undermining your right to confidentiality.