NGT Non-Operational IT Capex Draft Determination

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We are consulting on National Gas Transmission's (NGT) Non-Operational Information Technology (IT) Capex Re-opener submission, which was submitted in the 23 January 2023 to 30 January 2023 Re-opener window.

We particularly welcome responses from people and companies with an interest in electricity and gas transmission or distribution. We would also welcome responses from other stakeholders and the public.

This document outlines the scope, purpose and questions of the consultation and how you can get involved. Once the consultation is closed, we will consider all responses. We want to be transparent in our consultations. We will publish the non-confidential responses we receive alongside a decision on next steps on our website at ofgem.gov.uk/consultations. If you want your response – in whole or in part – to be considered confidential, please tell us in your response and explain why. Please clearly mark the parts of your response that you consider to be confidential, and if possible, put the confidential material in separate appendices to your response.

Any enquiries related to the text of this publication should be sent to Ofgem at:

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This publication is available at www.ofgem.gov.uk. Any enquiries regarding the use and re-use of this information resource should be sent to: psi@nationalarchives.gsi.gov.uk

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1. Introduction

Section summary

This section gives an explanation of NGT's submission, our assessment process, and how we will handle this consultation process.

Introduction

1.0 Network companies are natural monopolies. Effective regulation of privatised for-profit monopolies is essential to ensure they cannot unfairly exercise their monopoly power to the detriment of their customers. This is particularly important in the case of essential utilities, such as energy, where consumers have no choice on whether or not to pay what they are charged. It is therefore crucial that an effective regulator protects energy consumers by controlling how much network companies can charge their customers. Ofgem does this through periodic price controls that are designed to ensure network companies are properly incentivised to deliver the best possible outcomes for current and future energy consumers. This includes ensuring that consumers only pay for investments that are needed and do not overpay for those investments.

1.1 The current price control model is known as RIIO (Revenue = Incentives + Innovation + Outputs). RIIO-2 is the second price control under the RIIO model for electricity transmission, gas transmission and gas distribution, and runs from 1 April 2021 until 31 March 2026. It includes a range of Uncertainty Mechanisms (UMs) that allow us to assess applications for further funding during RIIO-2 as the need, cost or timing of proposed projects becomes clearer. This ensures that consumers fund projects only when there is clear evidence of benefit, and we have clarity on likely costs and cost efficiency. These mechanisms also ensure that the RIIO-2 price control has flexibility to adapt as the pathways to Net Zero become clearer.

1.2 Where possible, we have set automatic UMs, such as the Generation and Demand Connection Volume Drivers, which provide Electricity Transmission Owners with immediate funding when they are required to undertake new customer connection works. In other areas, where the degree of uncertainty is too great to allow for an automatic mechanism, we set 're-openers' which will allow us to assess proposals robustly once information with sufficient accuracy is made available.

1.3 The Non-Operational IT Capex Re-opener provides network companies with specific time periods ('windows') within the RIIO-2 period where they can request additional funding for new and replacement IT assets, including hardware, infrastructure, and software development projects, some of which may be critical for achieving Net Zero.

What are we consulting on?

1.4 We[1] are consulting on adjusting NGT's Non-operational Information Technology (IT) Capex[2] outputs and allowances under the RIIO-2 Non-operational IT Capex Re-opener.

1.5 In accordance with Special Condition 3.7 (Non-operational IT Capex Re-opener)[3], NGT applied to Ofgem to add additional allowances for Non-operational IT projects into its RIIO-2 price control framework.

1.6 Since its submission in January 2023, NGT has also provided additional information to us through a combination of bilateral meetings and Supplementary Question (SQ) responses.

1.7 We considered NGT's proposals and its justification for the funding requested in accordance with our principal objective and statutory duties. In line with the Re-opener Guidance and Application Requirement Document[4], our assessment covers the following three areas:

- the needs case
- the options assessment and the justification for the proposed project
- the efficient costs for the proposed project

We have combined this information to create our Draft Determination on what additional allowances, if any, should be provided to NGT to undertake the project.

1.8 We are issuing this Draft Determination for consultation following our assessment of NGT's re-opener application. This document explains our assessment of that application and the adjustments we are proposing to make to NGT's licence,

[1] The terms "we", "us", "our", "Ofgem" and "the Authority" are used interchangeably in this document and refer to the Gas and Electricity Markets Authority. Ofgem is the office of the Authority.
[2] Expenditure on new and replacement IT assets, including Hardware & Infrastructure and Application Software Development
[3] Special Condition 3.7.6 provides a mechanism by which the Licensee may seek additional funding during the RIIO-2 price control period for activities capable of improving the efficiency or performance of its Non-operational IT Capex.
[4] Re-opener Guidance and Application Requirements Document: Version 3 | Ofgem

including adjustments to allowances and the addition of any Price Control Deliverables (PCD). Following a tender process, we appointed a technical consultancy that assisted us with assessing these projects.

1.9 Our Draft Determination on NGT's re-opener application is split in to four parts, one for each of the four projects that NGT has requested additional allowances for. A summary of our Draft Determination for each project is shown in **Table 1**.

Table 1: Summary table of our Draft Determination

Project	**NGT's proposal (£m)**	**Our proposed adjustments**	**Our Draft Determination (£m)**
1. Enhance Asset Design	5.33	-0.301	5.029
2. Asset Performance Management	4.97	-4.97	0
3. [redacted]	23.46	-4.05	19.41
4. Enterprise Asset Management	4.04	-4.04	0
Total	**37.8**	**-13.361**	**24.439**

1.10 We will implement our decision from this consultation by way of a formal Direction, which we intend to issue alongside our decision. A draft of the direction is provided in Appendix 1, subject to consultation responses.

1.11 Throughout this document, all monetary figures are in 2018/19 prices (to align with the original RIIO-2 price base)[5]. Parts of this document may have been redacted, for example where the content relates to market sensitive information or Critical National Infrastructure. Where this is the case, it will be clearly shown by black redacted boxes over the relevant text.

Context and related publications

1.12 The scope of this consultation is limited to NGT's Non-operational IT Capex Re-opener. This document is intended to be read alongside:

[5] NGT provided some figures to us in 2022/23 prices, so these have been converted using our standard conversion factor of 0.84748362.

- the RIIO-2 Final Determinations – Core Document (REVISED)[6]
- the RIIO-2 Draft Determinations – Core Document[7]
- NGT's Special Licence conditions[8]
- RIIO-2 Re-opener Guidance and Application Requirements Document.[9]

Consultation stages

Figure 1: Consultation stages

Stage 1	Stage 2	Stage 3	Stage 4
Consultation open	Consultation closes (awaiting decision). Deadline for responses	Responses reviewed and published	Consultation decision
21/07/2023	20/08/2023	November 2023	November 2023

How to respond

1.13 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.

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

1.15 We will publish non-confidential responses on our website at www.ofgem.gov.uk/consultations.

Your response, data and confidentiality

1.16 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.

[6] RIIO-2 Final Determinations - Core Document (REVISED) (ofgem.gov.uk)
[7] RIIO-2 Draft Determinations for Transmission, Gas Distribution and Electricity System Operator | Ofgem
[8] EPR 2013 - Index (ofgem.gov.uk)
[9] Re-opener Guidance and Application Requirements Document: Version 3 | Ofgem

1.17 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.

If the information you give in your response contains personal data under the General Data Protection Regulation (Regulation (EU) 2016/679) as retained in domestic law following the UK's withdrawal from the European Union ("UK GDPR"), 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, see Appendix 4. 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.

General feedback

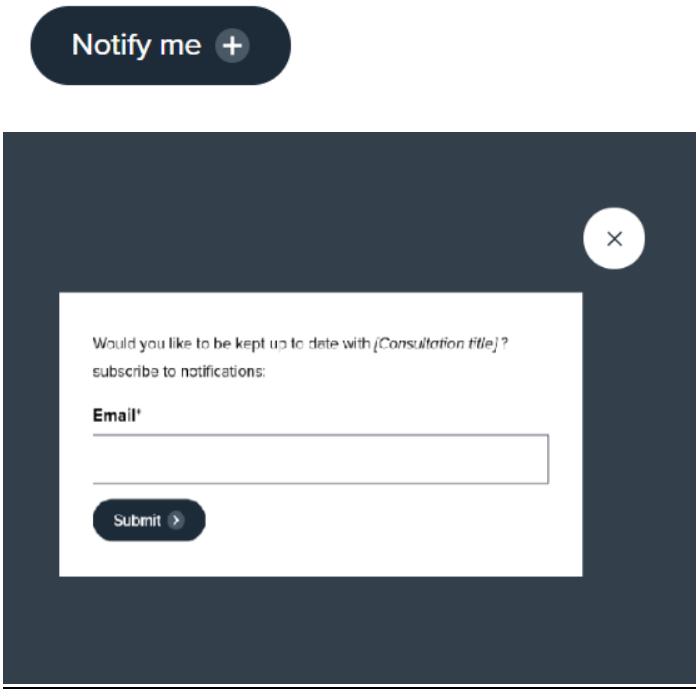
1.18 We believe that consultation is at the heart of good policy development. We welcome any comments about how we've run this consultation. We'd also like to get your answers to these questions:

1. Do you have any comments about the overall process of this consultation?
2. Do you have any comments about its tone and content?
3. Was it easy to read and understand? Or could it have been better written?
4. Were its conclusions balanced?
5. Did it make reasoned recommendations for improvement?
6. Any further comments?

Please send any general feedback comments to stakeholders@ofgem.gov.uk

How to track the progress of the consultation

You can track the progress of a consultation from upcoming to decision status using the 'notify me' function on a consultation page when published on our website.
Ofgem.gov.uk/consultations



Once subscribed to the notifications for a particular consultation, you will receive an email to notify you when it has changed status. Our consultation stages are:

Upcoming > **Open** > **Closed** (awaiting decision) > **Closed** (with decision)

2. Project 1 - Enhance Asset Design

Section summary

This section outlines NGT's re-opener application for its Enhance Asset Design project and our assessment of the needs case, optioneering and costs. Based on our assessment we have proposed to add allowances for this project, with some minor reductions.

Questions

Q1.Do you agree with our Draft Determination on the Enhance Asset Design project?

NGT's demonstration of the needs case

2.0 The needs case set out by NGT highlights existing issues and inefficiencies, primarily within the construction projects, asset registration and asset health assessment functions, which NGT explains can be effectively addressed through a focus on data interoperability and data sharing. NGT's assertion is that through implementation of a Common Information Model (CIM), an industry driven approach to construction standards, Building Information Modelling (BIM) and Common Data Environment (CDE), together with process transformations, that it can achieve greater efficiencies in the delivery of construction projects with improved controls and more accurate decision making on asset interventions.

2.1 The needs case identifies that there is a requirement to ensure that maximum value can be obtained from the data for use in various functions across Gas Transmission and Metering (GT&M) activities by ensuring visibility through standardised metadata, a common framework and structure for organising and describing data to ensure consistency, interoperability, and efficient data management. By implementing standardised metadata practices, NGT expects that it can establish a common language and set of conventions for describing data across different systems and applications. This would enable users to easily discover and understand the available data assets, fostering transparency and reducing ambiguity. As a result, stakeholders can make informed decisions and leverage the full potential of the data in their respective roles and functions.

2.2 The needs case also highlights the stakeholder and consumer priorities and benefits associated with the proposal. There is a clear emphasis on the expected safety outcomes that can be achieved because of the BIM implementation and associated projects, particularly the coordination of BIM data and geospatial datasets, which NGT suggests would allow digital data books containing the required health and safety files for each project. Similarly, NGT expects that an

output of the gas network digital twin process is expected to provide the ability for pre-emptive analysis and proactive asset intervention based on asset health and risk. An additional identified benefit is that of an improvement in environmental management and reduced damage through more effective planning and processes for construction projects.

2.3 The impending obsolescence of existing systems, including NGT's existing Enterprise Asset Management Software, also further demonstrates current challenges regarding the lack of data and knowledge capture within the current projects process and details several examples of inefficiency. NGT explains that this system obsolescence compounds identified issues with preconstruction work and lead times, scoping inaccuracies, and project closure delays. Improvements in all these areas could result from the suggested implementation of CIM, BIM and CDE. The implied impact of not taking the suggested action is that the accuracy of held asset data will decline with potential implications on project delivery efficiency and performance against targets, system and consumer safety and environmental execution.

Our Draft Determination on NGT's needs case

2.4 The needs case set out by NGT satisfactorily demonstrates the requirement for more effective use and sharing of data, which we agree is a fundamental part of achieving greater efficiencies in the delivery of construction projects. It would also provide other benefits within other NGT activities such as improved decision making, where access to accurate and timely data will help project stakeholders to make informed decisions based on reliable information. This should lead to better project planning, risk assessment, resource allocation, and mitigation of potential issues. Efficient data sharing will also help facilitate collaboration among different project teams, stakeholders, and disciplines, which can lead to smoother workflows and reduced delays.

2.5 Data-driven insights will help enable NGT to identify cost saving opportunities, optimise resource allocation, and streamline processes. This should lead to improved productivity, and ultimately lower project costs. Effective use of data supports robust quality assurance and control measures throughout the project lifecycle.

2.6 The obsolescence of the existing system and the need to replace and improve functionality for NGT means that this is a requirement that needs to be addressed within the RIIO-T2 price control period.

2.7 There is a compelling argument for improving how data is used in decision making across all asset projects to enhance effectiveness. However, the resulting high net present values (NPVs) for the data projects put forward by NGT in this document means that the payback period on the benefits achieved is around 10 years, the same as NGT expect for the lifespan of the project.

2.8 There is an imperative for the development of Enhanced Asset Design that not only meets project requirements but also demonstrates a positive return on investment at an earlier stage compared to Project 2 and Project 4, both discussed later in this document. This means NGT should place greater emphasis on optimising the design and implementation processes to expedite the realisation of financial benefits. By focusing on Enhance Asset Design, NGT could achieve quicker and more substantial returns on the investments, leading to improved overall project performance. This approach acknowledges the importance of efficiency, cost-effectiveness, and time-to-value in asset projects, ultimately driving greater economic viability and ensuring the timely delivery of project benefits. This also provides a good foundation for the development of a digital twin which leverages more benefits in the future.

NGT's options considered and justification for the proposed project.

2.9 NGT compared 4 options for addressing the needs case:

- **Option 1** - introducing in-house BIM applications to create and manage 3D designs while everything else remains unchanged.
- **Option 2** – delay the implementation of BIM to a later date in RIIO-2 or next regulatory period.
- **Option 3** – introduce BIM–CDE platform supported by process transformation. Integration of all systems used in construction within the platform.
- **Option 4** – create the digital twin platform across the entire gas network through introduction of BIM-CDE platform followed by 3D scanning, photogrammetry overlay and data consolidation of all assets.

2.10 NGT rejected Option 1, as it would mean that there would be greater occurrences of project delays as well as restricting NGT's ability to perform pre-emptive maintenance. NGT also discounted Option 2, on the basis that delaying the implementation or opting for a more simplified approach would not yield substantial enough benefits compared to Option 3.

2.11 NGT also rejected Option 4, and stated that while a more advanced option, such as a Digital Twin Platform, may offer greater benefits in the long run, the implementation of such an option is currently hindered by factors such as the maturity level in this field, inherent complexity, and significant dependencies on other ongoing projects.

2.12 NGT's recommended option is Option 3, NGT chose this option based on the results of its Cost-Benefit Analysis (CBA) assessed over a ten-year period. NGT state that this option strikes an optimal balance between investment, risk, and payback at this stage.

2.13 Option 3 includes the full implementation of BIM and CDE platform and digitalisation of the complete construction project lifecycle within RIIO-2 period and plan to invest in the following:

- Introducing a CDE for collaborative working with its partners, bringing together other key elements such as the Digital Platform and the Enterprise Content Management (ECM) systems.
- Standardise asset data collection, analysis and reporting documents, asset classification and hierarchy across NGT.
- Streamline the end-to-end construction project delivery processes with improved user experiences, training and support of user and establish a framework for continuous process improvement.
- Apply new standards and use the BIM-CDE capability on decommissioning and asset health construction projects which are being delivered by external contractors and are tendered after the first two years of RIIO-2. Once enough evidence has been gathered to demonstrate and refine the approach, this will be applied to all major construction projects that move into Scope Creation stage.
- Integrate other relevant applications with the CDE platform.

Our Draft Determination on NGT's optioneering

2.14 We agree that NGT has correctly discounted Option 1, because it would not replace systems approaching obsolescence and therefore address the needs case. We also agree that NGT was correct to discount Option 4, because it would

leverage the benefits of the move to [software application][10] but would require NGT to add a significantly higher level of resource for a project that is not of sufficient maturity.

2.15 We are therefore satisfied that the correct option, Option 3, has been selected to address the needs case. By beginning implementation during the RIIO-T2 period, NGT can begin to leverage the benefit of the move to [software application] without having to add significant resources as it would likely have to do so with Option 4. Additionally, Option 3 is likely to encourage many of the associated third-party organisations that support NGT activities to also add data and information to the proposed system earlier than they otherwise might, further compounding the benefits.

Our Draft Determination on NGT's costs

2.16 NGT is seeking the approval for £5.33m for the full implementation of BIM and CDE platform and digitalisation of the complete construction project lifecycle within RIIO-2 period. Our review of the costs for this project highlighted that a substantial proportion of the total costs would be for external resource, product or service, sourced via requests for proposals (RFPs). These will be subject to market forces, changes and influences. NGT commissioned Gartner to produce a benchmark for this type of work that showed the rates were comparable to similar projects, and our own analysis suggests that this is correct.

2.17 All three asset projects (Projects 1, 2 and 4 in this document) are all dependent on the completion of the DAM project which is due to complete in March 2024. This program will deliver the current system's capabilities within [software application]. This is therefore a key dependency and if there is any slippage it could lead to additional costs across all three projects. This has been reflected in the risks, where NGT has included a risk pot of £0.703m in the project as a contingency due to market pricing variations or delays, representing 13.11% of total project value. This is high and does not align with similar projects that we have assessed. Across RIIO-ET2 determinations we used a capped average risk across projects at 7.5% of our assessed efficient costs, following a review of outturn risk on a number of RIIO-1 projects. We do not believe we have seen sufficient reason to apply a different approach in this case and propose using the same 7.5% here. **Proposed reduction £0.301m**.

[10] Publication of the application name could expose technical vulnerabilities, so we have redacted the name of the new software application and replaced it with '[the new software application]'.

2.18 **Table 2** sets out NGT's proposed costs, our proposed adjustments as set out above, and our Draft Determination for this project. Any adjustments would be applied proportionally across all years of the project.

Table 2: Draft Determination on Project 1

	NGT's proposal	**Proposed adjustments**	**Draft Determination**
Allowances (£m)	5.33	-0.301	5.029

2.19 To help ensure this project provide good value for money, our proposed allowances for this project will be covered by a single Price Control Deliverable (PCD). This is in line with the suggestion made by NGT.

- Utilisation of BIM-CDE capability and applied new standards on decommissioning and asset health construction projects which are delivered by external contractors and are tendered after the first two years of RIIO-2. Once enough evidence has been gathered to demonstrate and refine the approach, utilise BIM-CDE capability and standards for all major construction projects that move into the Scope Creation stage.

2.20 This PCD will have the delivery date of 31 March 2026, to align with the end of the RIIO-2 period.

3. Project 2 - Asset Performance Management

Section summary

This section outlines NGT's re-opener application for its Asset Performance Management (APM) project and our assessment of the needs case, optioneering and costs. Based on our assessment we have proposed to reject the request to add allowances for this project.

Questions

Q2. Do you agree with our Draft Determination on the Asset Performance Management project?

NGT's demonstration of the needs case

3.0 The needs case explains that there are several key challenges related to the current systems and applications utilised for asset and system preventative maintenance. NGT asserts that the current system capabilities result in a reactive rather than preventative maintenance process, determined by defined timeframes between inspections rather than data driven intelligence, which would help enable the operations workforce to act before failure or defects could occur. The needs case indicates that implementation of an effective APM would also reduce both resource time in response to failure as well as operational overheads.

3.1 The needs case sets out the problems with the legacy systems, beginning with an explanation that the systems are several separate applications, each with a specific function and between which there is little or no connectivity and data sharing; these different applications do not contribute data to a central APM system. NGT also explains that inaccurate or incomplete data capture and lack of correlation on asset data between systems is leading to unnecessary disruption and downtime. NGT suggests that the implementation of an effective APM would address these challenges and allow a real time regulatory reporting mechanism and the realisation of efficiency gains through reduced unplanned downtime and reduced health and safety risks.

3.2 A key feature of the needs case is NGT's statement that the current legacy systems are ill suited, or not compatible with a blended gas network as there are significant technical complexities such as data encryption and transmissions mechanisms that cannot be overcome easily. The ability to analyse and report blended gas data from asset sensors is therefore set out as an essential aspect of a transition to hydrogen and therefore a requisite element of future systems.

3.3 NGT explains that it undertook a comprehensive benchmarking activity of the current asset management capability using a third party, ISO 55001:2014[11] aligned model. This review highlighted five improvement opportunities, of which two; *Enhancement and integration of strategic and tactical planning processes* and *Data management improvement*, could be addressed by implementing the solution proposed in the needs case. The remaining three opportunities were not identified in the needs case.

3.4 To facilitate the successful implementation of the Asset Performance Management project (APM), NGT will aim to leverage the new module's out-of-the-box features within [software application]. This module offers enhanced data analytics capabilities and enables predictive maintenance practices. It also provides real-time access to asset data, supporting informed business decision-making processes. By utilising these functionalities, NGT aims to optimise asset performance, improve maintenance strategies, and enhance overall operational efficiency.

Our Draft Determination on NGT's needs case

3.5 NGT is working towards establishing [software application] EAM as the central repository for the master data set that will be utilised across all three data investments. As part of this effort, it plans to modify its data model from its existing system to [software application], incorporating ISO attributes and aligning it more closely with industry standards.

3.6 We can see that NGT has a needs case for simplifying the integration of different data sets and systems, which would help to minimise disruptions to maintenance plans and operations.

NGT's options considered and justification for the proposed project

3.7 NGT has compared 4 options as below:

- **Option 1** – continue with the as-is state of legacy systems, capturing limited asset condition and pipeline inspection data

[11] ISO 55001:2014 is an international standard that specifies requirements for an asset management system within the context of the organisation. https://www.iso.org/standard/55089.html

- **Option 2** – postpone the transformation to a unified APM platform to a future date in RIIO-2 (or the next regulatory period)
- **Option 3** – implement and configure APM solution offered by SAP
- **Option 4** – implement and enhance the industry standard APM solution offered by [software application]. (Recommended option).

3.8 Option 1, continue with the as-is state of legacy systems, was rejected by NGT. This option involves maintaining the existing legacy systems without any significant improvements. NGT explains that it limits its ability to capture comprehensive asset condition and pipeline inspection data. Relying on limited data hinders effective asset management and prevents NGT from leveraging advanced analytics, predictive maintenance, and real-time insights provided by modern APM solutions.

3.9 Option 2, to postpone the transformation to a unified APM platform, was also rejected by NGT as it suggests delaying the implementation of a unified APM platform to a future date or regulatory period, prolongs the inefficiencies and limitations associated with the current systems. It defers the realisation of the benefits offered by an advanced APM solution, such as improved data analytics, enhanced decision-making, and proactive maintenance practices. NGT assert that this delay can result in increased costs, missed opportunities for optimisation, and potential risks to asset performance.

3.10 NGT has also rejected Option 3, to implement and configure an APM solution offered by SAP. NGT explains that whilst implementing an APM solution offered by SAP may seem attractive, it is crucial to consider the specific requirements and capabilities needed for effective asset performance management. NGT's analysis highlighted that the SAP solution does not align closely enough with its stated APM needs or lacks the desired features for data analytics, predictive maintenance, and real-time asset data access.

3.11 This means Option 4, implementing and enhancing the industry standard APM solution offered by [software application], is the recommended choice from NGT due to its comprehensive features, advanced analytics, predictive maintenance capabilities, integration possibilities, real-time data access, and strong industry adoption. NGT set out that it offers a well-established and proven solution that aligns closely with the organisation's APM goals, providing a solid foundation for optimising asset performance management.

3.12 Option 4 includes the choice of APM enabled by [software application], which NGT has proposed will deliver the following benefits:

- Integration of asset data from disparate systems into an APM platform that offers enhanced data analytics capability, enabling predictive maintenance.
- Access to real time asset data including asset condition data that can monitor the impact of introducing blended hydrogen gas to the NTS.
- Enhanced integration of asset data with the data platform to allow for reporting on asset data that can be used for internal business decision making, regulatory reporting and sharing with wider stakeholders including distribution networks.
- A cohesive solution for Asset Management, HSE and Asset Performance Management to adapt and respond to external factors such as regulatory requirements, risks and guidelines.

3.13 Although a product has been selected for Option 4, NGT states that it will complete a competitive tender exercise to select a suitable vendor to deliver and support the solution.

Our Draft Determination on NGT's optioneering

3.14 We have assessed each option and agree that continuing with the current legacy estate (Option 1) is not viable in the long term because there are significant benefits to moving towards new systems. The benefits of delivering a regime of preventative maintenance are well documented by NGT, including potentially improving the resilience of the network and reducing potential maintenance costs.

3.15 NGT's preferred option is Option 4, the implementation of [software application] solution, which provides an industry standard solution. However, we do not see a clear and compelling rationale for NGT's suggestions regarding the proposed enhancements to the standard solution.

3.16 NGT has emphasised the importance of timely delivery of the Data Acquisition and Management (DAM) program. NGT explained that in case of any delays in DAM delivery, it can conduct detailed investigations independently of [software application] EAM to ensure the program's capabilities are successfully implemented. However, our assessment suggests that this independent investigation approach does not seem feasible given the APM Project is built upon the minimum viable product set developed as part of the DAM program. The interdependence of these projects necessitates the smooth execution and timely completion of the DAM program to ensure the successful implementation of APM. Moreover, it is essential to consider the net benefit of this asset project, which is

projected to become evident only by 2031. Any delays in the DAM program would further impact the realisation of these benefits.

3.17 Considering the additional risk and cost associated with the implementation of the [software application] DAM program in March 2024, we consider that it does not justify allocating funds for this program of work at the current time. We suggest that a more prudent approach would be to focus on ensuring the timely completion of the DAM program and to then leverage its outputs and learnings to explore whether this project is needed in the next price control period.

Our Draft Determination on NGT's costs

3.18 NGT is requesting an investment of £4.97m to undertake this project.

3.19 As discussed in our Draft Determination on the needs case, we agree that there is a needs case that could be addressed. However, as discussed in our Draft Determination on the optioneering, we propose that this work should not be funded at this stage. Instead, we propose that NGT should look to complete the [software application] DAM program and then explore whether this project is still needed ready for business plan submissions for the next price control period.

3.20 **Table 3** sets out NGT's proposed costs, our proposed adjustments as set out above, and our Draft Determination for this project.

Table 3: Draft Determination on Project 2

	NGT's proposal	**Proposed adjustments**	**Draft Determination**
Allowances (£m)	4.97	-4.97	0

4. Project 3 - [redacted]

Section summary

This section outlines NGT's re-opener application for its [redacted] project and our assessment of the needs case, optioneering and costs. Based on our assessment we have proposed to add allowances for this project, with some reductions.

Questions

Q3. Do you agree with our Draft Determination on the [redacted] project?

NGT's demonstration of needs case

4.0 NGT explains that the safety and security of its Critical National Infrastructure (CNI) assets is at the heart of its IT strategy. NGT's ambition is for it to have the capability to monitor critical points within its vast network of assets at all times, without any gaps or downtime.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Our Draft Determination on NGT's needs case

[redacted]

[redacted]

[redacted]

NGT's options considered and justification for the proposed project

[redacted]

[redacted]

Our Draft Determination on NGT's optioneering

[redacted]

[redacted]

[redacted]

Our Draft Determination on NGT's costs

4.22 NGT is seeking an investment of £23.46m to [redacted]

4.23 A cost category labelled 'other' accounts for costs amounting to £1.87m, which includes activities that could have been included in the main scope of work. Within this category, NGT have estimated £1.44m for [redacted] Whilst waiting for further detailed justification from NGT, **we propose to disallow £1.44m,** due to lack of detailed justification.

4.24 An R&D cost category is included in this project, which may refer to the design stage of the programme covered within the Project Delivery and Milestones section of the submission document. Considering that the procurement has already taken place, the risk has already passed. Therefore, we propose to reduce the allowance for that category by the risk percentage used for internal and third-party resource, 8% and 9% respectively. So, **we propose to disallow £0.22m**.

4.25 External and third-party costs for the project are relatively high, with many of them greatly exceed the amounts typically incurred through internal resources performing similar roles, for example PMO, Programme Managers and Technical Engineers. Across the R&D, Build Test, Deploy and PIS phases of the project there is a requirement for 2698 days of 3rd Party technical engineer input costing £1.59m. Given these roles already exist within NGT and should be scalable over the lifetime of the project, we propose that they should be costed using internal rates, so **we propose to disallow £0.81m**.

4.26 Additionally, the cost breakdown for this project includes a provision by NGT for an external support role labelled as "other," with a day rate of £508. This role is allocated for 320 days during the R&D phase, 2760 days across the Build, Test, and Deploy phases, and an additional 21 days during PIS, resulting in a total cost of £1.58m. If specific tasks and resource requirements have been planned, it is

essential to clearly define the roles necessary to carry out those tasks. The use of the term "other" implies a lack of definition and suggests that it may be intended as a contingency line item. We are concerned about the value provided by this role within the project, and therefore, we propose disallowing the values associated with each delivery phase. In total, this means **we propose to disallow £1.58m** for this role.

4.27 **Table 4** sets out NGT's proposed costs, our proposed adjustments as set out above, and our Draft Determination for this project. Any adjustments would be applied proportionally across all years of the project.

Table 4: Draft Determination on Project 3

	NGT's proposal	**Proposed adjustments**	**Draft Determination**
Allowances (£)	23.46	-4.05	19.41

4.28 To help ensure this project provides good value for money, our proposed allowances for this project will be split in to the following PCDs, as proposed by NGT:

- PCD1 – [redacted]
- PCD2 – [redacted]
- PCD3 – [redacted]
- PCD4 – [redacted]

4.29 These PCDs will have the delivery date of 31 March 2026, to align with the end of the RIIO-2 period.

5. Project 4 - Enterprise Asset Management Enhancements

Section summary

This section outlines NGT's re-opener application for its Enterprise Asset Management project and our assessment of the needs case, optioneering and costs. Based on our assessment we have proposed to reject the request to add allowances for this project.

Questions

Q4. Do you agree with our Draft Determination on the Enterprise Asset Management Enhancements project?

NGT's demonstration of the needs case

5.0 The NGT needs case details how the core functionality of its existing asset management tool is being replicated by new [software application] through NGT's existing Digital Asset Management (DAM) programme. This core functionality includes the three workstreams of Enterprise Asset Management (EAM), Enterprise Content Management (ECM) and Geospatial Information Systems (GIS). NGT's needs case asserts that this core functionality is not sufficient to enable the use of hydrogen on the network and that without further enhancements to [software application], NGT will not be able to comprehensively plan management of asset health and utilise collected asset data to improve understanding of assets.

5.1 NGT indicates in the needs case that it has identified several, additional problem statements and opportunities which may be addressed through enhancements of the [software application] functionality, for which funding is being requested. These are: current manual processes, defect management improvements, fragmented GIS asset tracking, fragmented asset financial tracking, centralised job planning, manual inventory management and enhanced reporting. NGT states that these problems are not addressed by the Minimum Viable Product (MVP) delivered by the existing DAM programme.

5.2 Several aspects within the NGT needs case for this project, such as enhanced reporting, current manual processes, defect management and centralised job planning also feature within the needs case for Asset Performance Management (Project 2, assessed above).

Our Draft Determination on NGT's needs case

5.3 NGT has identified a comprehensive list of focus areas that may be addressed and enhanced within new. NGT hopes that this approach will facilitate the integration of emerging technologies, such as hydrogen, into its network, ensuring efficient operations and informed decision-making.

5.4 Additionally, the transition from the current asset management tool to [software application] through the Digital Asset Management (DAM) program is presented as a solution to the system's end-of-support vulnerability. While replacing outdated systems is necessary, the case does not elaborate on the evaluation process or alternative options considered during the selection of [software application]. The DAM program's three workstreams are mentioned, but their alignment with the organisation's strategic goals or the justification for their inclusion is not provided.

5.5 The needs case emphasises the potential benefits of implementing [software application], such as improved operational performance, enhanced return on assets, minimised repair work, risk management, and extended asset life. While these benefits are desirable, there is a lack of specific data to substantiate the expected improvements and justify investment.

5.6 Additionally, the needs case suggests that [software application] will enable end-to-end lifecycle management of assets, including maintenance planning and cost analysis. However, the specific features or capabilities of [software application] that enable these improvements are not clearly outlined in the needs case.

NGT's options considered and justification for the proposed project

5.7 NGT has shortlisted three options:

- **Option 1** – deliver a limited number of features to resolve the issues identified in the needs case
- **Option 2** – delay the implementation of EAM Enhancements to later in RIIO-2
- **Option 3** – deliver all the identified enhancements on [software application] for Asset Management (recommended)

5.8 NGT explains that other options were considered but not shortlisted based on their strategic alignment with NGT's wider goals. Firstly, the "Do Nothing" option was ruled out because it would not deliver the essential benefits outlined in the

needs case, nor would it capitalise on the success of the competitive tender and DAM implementation. Additionally, NGT consider that this option would not contribute to the digitalisation strategy, or the overarching business strategy aimed at achieving net zero. The second option of going out to the market for a new solution was also removed from consideration. This decision was influenced by NGT's recent strategic choice to adopt [software application] as the preferred Enterprise Asset Management solution. Through a process involving a Request for Proposal (RFP) and negotiations with potential vendors, [software application] emerged as the market-leading solution that aligns with the required functionality for asset management.

5.9 Having shortlisted, NGT rejected Option 1, the "do minimum" approach, as it considered that it would not offer substantial benefits that would justify the investment. The minimal changes and lack of enhancements associated with this option would fail to deliver the desired outcomes.

5.10 For Option 2, NGT discusses that it considered that a delayed implementation of this option would result in financial disadvantages. NGT has assessed that the loss of continuity within the experienced [software application] delivery team would lead to additional costs amounting to £297k, as efficiency would be compromised, so it rejected this option.

5.11 NGT has recommended option 3, and has proposed this will be invested in:

- Enhancing the DAM MVP to deliver essential process improvement for EAM capability and resolve specific core issues prioritised with the asset management teams.
- Removing the need to manually switch between and pull data from different systems into the EAM solution which will increase the visibility of data and enable improved decision making.
- Digitalisation of the currently manual asset management inventory process which is spread across multiple physical locations to improve reliability and provide certainty that critical spares are available at short notice. Improvement to inventory management will reduce the mean time to recover assets that are offline and reduce the impact offline assets have on the gas transmission network. This benefit is included in the CBA at £0.34m saved per year go live of new system.
- Enabling the creation of a holistic view of ongoing asset health and historic asset health into a single location. Including operational health and previous financial investment data to see the whole asset lifecycle across

equipment for a more comprehensive understanding of how the network reacts, eg for the introduction of hydrogen, or blended hydrogen.

- Improving knowledge and management of operational resources through identifying gaps in training across different areas and ensuring operational staff have the right knowledge, equipment and skills when visiting sites for repairs.

Our Draft Determination on NGT's optioneering

5.12 NGT shortlisted three options for consideration, and it was helpful for us to see an explanation of why other options were removed from the shortlist.

5.13 NGT's preferred option, Option 3, is stated to align with the organisation's digitalisation strategy by consolidating and simplifying current IT systems. NGT expect that Option 3 would bring visibility and control across the enterprise, enabling better management of assets, schedules, resources, processes, inventories, and expenses. This suggests that the proposed option aims to address inefficiencies and provide centralised control over asset-related activities.

5.14 NGT found Option 3 would enable the integration of operational technology (OT) asset information with EAM, allowing for better planning and management of asset health. NGT expect that this integration can lead to more informed decision-making and proactive maintenance practices, contribute to improved safety, efficiency, and performance of field operations and network asset management. The selection of Option 3, via the evaluation process, indicates that it eliminates the need for additional resources and investment on assets by leveraging appropriate technology. This suggests that the proposed solution aims to maximise network availability and safety while minimising unnecessary expenses.

5.15 We can see that Option 3 would be likely to bring benefits to NGT and consumers. However, the proposed option, like Project 2, is dependent upon the successful completion of the DAM Project or elements of it. We would like to have seen this dependency and associated risks to have been clearly identified and documented within the optioneering.

5.16 In the event of any potential delays in the DAM delivery, NGT has considered the option of conducting thorough investigations into the program's capabilities independently of [software application] EAM. However, we are unconvinced that this alternative is a viable solution. It is crucial to note that the Enterprise Asset Management Enhancements programme is designed to build upon the MVP set

established through the DAM program, which is based on [software application]. Therefore, it appears that attempting to pursue independent investigations outside the established framework would not align with the intended objectives and outcomes of the overall initiative.

5.17 Implementing Option 3 involves numerous layers of dependency and presents inherent risks that would need to be carefully managed. At its core, implementation relies on the integration of the DAM programme with associated network infrastructure, and data management components. Additionally, dependencies extend beyond the technical aspects, encompassing significant external factors such as high third-party dependency. The complexity of interdependencies increases the potential for risks to emerge throughout the implementation journey, including project delays, budget overruns, inadequate adoption, and security vulnerabilities.

5.18 Therefore, considering the potential risks and costs associated with waiting for the implementation of the [software application] DAM program in March 2024, we do not consider that there is enough justification to allocate funding to this project at this time.

Our Draft Determination on NGT's costs

5.19 NGT is looking for £4.04m to implement the core feature enhancements in the [software application] platform. Specifically, this project aims to expand upon the existing MVP set developed as part of the DAM program.

5.20 As set out in our assessment of the needs case, we can see that there could be clear benefits to undertaking this type of project. However, as set out in our assessment of the optioneering, we have assessed that there are significant risks and bottlenecks to this project at this stage.

5.21 This means that our current position is that addressing these risks through comprehensive planning, rigorous testing, stakeholder engagement, and contingency measures, through the completion of the DAM project and successful implementation of Project 1 – Enhanced Asset Design is vital to mitigate potential setbacks and ensure a future successful implementation of any additional projects. We suggest that NGT completes this foundational work and then explores whether both this project (Project 4) and Project 2 are still needed ready for the next price control period.

5.22 Finally, these costs are incremental to the original costs associated with the replacement of its existing system with [software application] solution, for which

NGT have already received funding in RIIO-2. We suggest that if NGT do bring this project back to us for the next price control period, that it includes an analysis of the scope and associated costs of the original project to ensure that this request does not overlap with any capabilities and solutions requested in its original RIIO-2 submission.

5.23 **Table 5** sets out NGT's proposed costs, our proposed adjustments as set out above, and our Draft Determination for this project.

Table 5: Draft Determination on Project 4

	NGT's proposal	**Proposed adjustments**	**Draft Determination**
Allowances (£m)	4.04	-4.04	0

Appendices

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Appendix 1 – Draft Direction

Introduction

A1.1 Following our assessment of the submission, we have collated our minded-to position on each project. Any decision, for example to add additional allowances for a project, will be implemented into the Licensees licence via a Direction.

A1.2 This Appendix provides a draft of the Direction we are minded-to issue. This may be revised following this consultation and will confirm the Direction text in our consultation response.

Direction under Special Condition 3.7.6 of the gas transporter licence held by National Gas Transmission Ltd (the Licensee) to add allowances for Non-Operational IT Capex

A1.3 National Gas Transmission Ltd is the holder of a licence granted or treated as granted under s.6(1)(b) of the Electricity Act 1989 (the 'Act').

A1.4 Special Condition 3.7 provides a re-opener mechanism by which the Licensee may seek additional funding during the RIIO-T2 price control period for activities capable of improving the efficiency or performance of its Non-operational IT Capex. The Licensee applied to the Authority under Special Condition 3.7.6 in January 2023.

A1.5 The Gas and Electricity Markets Authority ('the Authority') gave notice on [xx/xx/2023] in accordance with Special Condition 3.7.12 of our issuance of a direction under Special Condition 3.7.6 to amend Appendix 1 (Total Non-operational IT Capex Re-opener allowance) of Special Condition 3.7. The notice, published on the Authorities website, included the text of the proposed direction to issue, the reasons for the proposed direction and provided for representations to be made on or before [xx/xx/2023].

A1.6 [The Authority received [x] non-confidential representation(s) and has placed [it/them] on ofgem.gov.uk. Having considered [this/these] representations, as explained in this document, the Authority has decided to proceed with making this direction. This document constitutes notice of the Authority's reasons for the direction.]

A1.7 This direction will give effect to the Authority's decision on the Licensee's application to the Authority to add additional Non-Operational IT Capex allowances into its RIIO-2 price control framework. Further details on the reasons for and effect of this direction can be found in the main body of this document.

A1.8 Pursuant to Special Condition 3.7.6, the Authority hereby directs the changes to Special Condition 3.7 Appendix 1 and Special Condition 3.7 Appendix 2 as set out in this direction.

A1.9 This direction will replace Table 1 (the existing table within Special Condition 3.7 Appendix 1) with Table 2. The formatting has been improved to reduce ambiguity and align with tables used elsewhere in the licence.

A1.10 This direction will also amend Table 3 (the existing table within Special Condition 3.7 Appendix 2).

Table 1

~~Total Non-operational IT Capex Re-opener allowance (£m)~~

	~~2022~~	~~2023~~	~~2024~~	~~2025~~	~~2026~~	~~Total~~
~~Re-opener Allowance~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~

Table 2

Total Non-operational IT Capex Re-opener allowance (£m)

	2021/22	2022/23	2023/24	2024/25	2025/26	All years
Re-opener Allowance	0	0	0	0	0	0

Table 3

Non-operational IT Capex Price Control Deliverable (£m)

			Regulatory Year					
NOITRE project	Output	Delivery date	2021/22	2022/23	2023/24	2024/25	2025/26	Total
~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
Enhance Asset Design	Utilisation of BIM-CDE capability and applied new standards on decommissioning	31-Mar-26	0	0.481	1.613	1.632	1.292	5.018

	and asset health construction projects which are delivered by external contractors and are tendered after the first two years of RIIO-2. Once enough evidence has been gathered to demonstrate and refine the approach, utilise BIM-CDE capability and standards for all major construction projects that move into the Scope Creation stage.							
[redacted]	[redacted]	31-Mar-26	0	0	2.119	2.598	1.363	6.080
[redacted]	[redacted]	31-Mar-26	0	0	2.997	1.586	0.710	5.293
[redacted]	[redacted]	31-Mar-26	0	0	2.053	3.837	1.497	7.388
[redacted]	[redacted]	31-Mar-26	0.005	0.641	0	0	0	0.645

A1.11 This direction will take effect immediately.

Yours sincerely,

Jourdan Edwards

Interim Deputy Director Onshore Price Control Operations

For and on behalf of the Authority

Privacy notice on consultations

Personal data

The following explains your rights and gives you the information you are entitled to under the General Data Protection Regulation (GDPR).

Note that this section only refers to your personal data (your name address and anything that could be used to identify you personally) not the content of your response to the consultation.

1. The identity of the controller and contact details of our Data Protection Officer

The Gas and Electricity Markets Authority is the controller, (for ease of reference, "Ofgem"). The Data Protection Officer can be contacted at dpo@ofgem.gov.uk

2. Why we are collecting your personal data

Your personal data is being collected as an essential part of the consultation process, so that we can contact you regarding your response and for statistical purposes. We may also use it to contact you about related matters.

3. Our legal basis for processing your personal data

As a public authority, the GDPR makes provision for Ofgem to process personal data as necessary for the effective performance of a task carried out in the public interest. i.e., a consultation.

4. With whom we will be sharing your personal data

We will not be sharing your personal data with other organisations.

5. For how long we will keep your personal data, or criteria used to determine the retention period.

Your personal data will be held for up to twelve months after the consultation process closes.

6. Your rights

The data we are collecting is your personal data, and you have considerable say over what happens to it. You have the right to:

- know how we use your personal data
- access your personal data
- have personal data corrected if it is inaccurate or incomplete
- ask us to delete personal data when we no longer need it
- ask us to restrict how we process your data
- get your data from us and re-use it across other services

- object to certain ways we use your data
- be safeguarded against risks where decisions based on your data are taken entirely automatically
- tell us if we can share your information with 3rd parties.
- tell us your preferred frequency, content and format of our communications with you.
- to lodge a complaint with the independent Information Commissioner (ICO) if you think we are not handling your data fairly or in accordance with the law. You can contact the ICO at https://ico.org.uk/, or telephone 0303 123 1113.

7. Your personal data will not be sent overseas

8. Your personal data will not be used for any automated decision making.

9. Your personal data will be stored in a secure government IT system.

10. More information For more information on how Ofgem processes your data, click on the link to our "ofgem privacy promise".