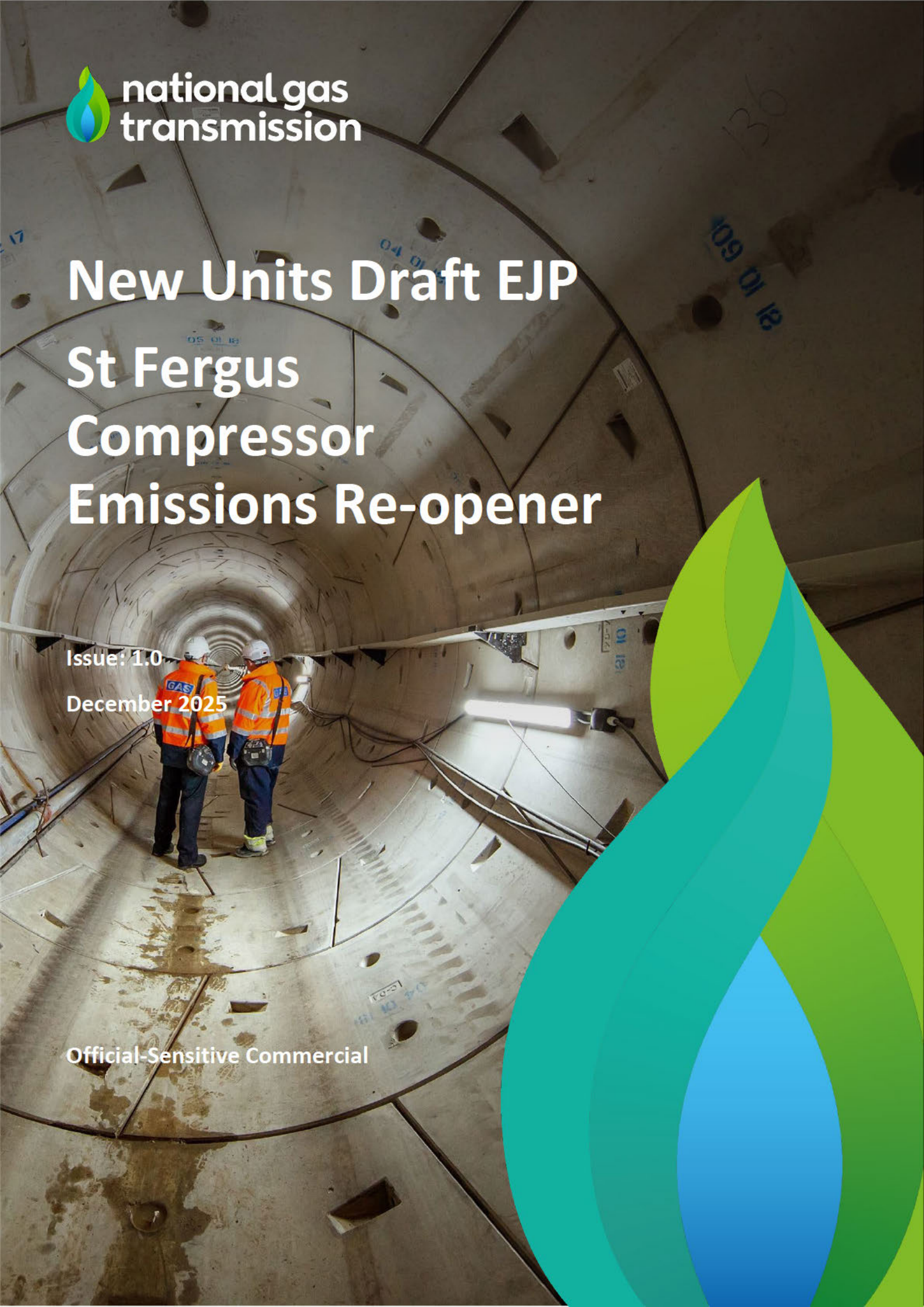
national gas transmission

New Units Draft EJP

St Fergus Compressor Emissions Re-opener



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Contents

Version control

Version/revision number	Date of issue	Notes
0.1	November 25	First Draft (without cost estimates)
1	December-25	Ofgem Submission

1 Executive Summary

This section provides summary of the project progress so far (as of December 2025), factors driving the project costs, and outcomes of the cost-benefit analysis re-run exercise. The section will be re-submitted in March 2026 with final details on the project as agreed with Ofgem.

1.1.1 This paper focuses on project progress, key cost drivers, and a re-run of the cost-benefit analysis (CBA), incorporating anticipated figures for the approved option at the Final Options Selection Report (FOSR) stage alongside comparable alternatives. The objective is to validate National Gas Transmission's (hereafter NGT) approach to consumer expenditure and provide assurance to Ofgem that the investment is appropriately targeted to deliver maximum benefit to consumers.

1.1.2 This Engineering Justification Paper (EJP) focuses on the installation of three new compressor units at the St Fergus Gas Terminal to comply with the medium combustion plant directive (MCPD), ensuring emissions compliance and long-term operational resilience. Asset health scope is addressed in a separate EJP.

1.1.3 Implementation of three new units across existing Plant 1 and Plant 2 locations will take place within the St. Fergus gas terminal.

Project progress and contracting

1.1.4 Following the FOSR, NGT completed a feasibility study between May 2023 and February 2025 to enable development of early delivery plans and design basis, enabling readiness for the feasibility under an Early Contract Involvement (ECI) model.

1.1.5 A competitive tender process ran from June 2024 to February 2025 and resulted in the appointment of [redacted] the Main Works Contractor (MWC) under a [redacted] and Construction Contract and Design and Build Contract.

1.1.6 This contract type was selected, following market consultation with [redacted] to enable early collaboration and engagement with the Contractor, via the [redacted], to prioritise scope definition and cost estimate development ahead of the re-opener submission.

1.1.7 The [redacted] split into [redacted] (feasibility study to define the scope and to establish the cost estimate to deliver the project to [redacted] and [redacted] (detailed engineering, procurement of long lead items and site setup while awaiting Ofgem's final determination on the re-opener submission).

1.1.8 Subject to Ofgem approval, the Contract is set up to enable extension into Stage 2[1] potentially covering any remaining detailed engineering activities but with the main project delivery covering construction and commissioning.

1.1.9 After a competitive tender, [redacted] was selected as the Original Equipment Manufacturer (OEM) for the delivery of [redacted] machinery train packages, including Compressor, Local Equipment Room (LER) and all associated peripheries and controls; with the purchase order placed on 28 March 2025, under [redacted] and based around a signed Frame Agreement.

1.1.10 Throughout this document the term 'Contractor' should be understood to refer to [redacted] unless otherwise specified. Similarly, the term 'OEM' should be understood to refer to [redacted]

[1] Pending issue of a Notice to Proceed following completion of Stage 1

Cost build-up and control process

1.1.11 At the end of September 2025, we received a comprehensive cost build-up from the Contractor to support their [redacted] estimate. To ensure value for NGT and consumers, we are undertaking a robust review of all elements of the Contractor's cost estimate including resourcing, risk, design, supply chain and will be making our final cost submission in March 2026 when this submission will be amended with details of such costs.

1.1.12 In conjunction with main cost build-up examination, a general review of the market was conducted. The market conditions we operate in are constrained, with a limited number of contractors possessing the necessary expertise to develop and deliver a project of this scope and scale. This scarcity exerts upward pressure on prices and significantly contributes to high contractor costs. Additionally, evolving geopolitical factors, such as the war in Ukraine, Brexit and the post-pandemic recovery, have led to substantial increases in material costs over the past five years. This is detailed in section 3.1.

1.1.13 To assess the reasonableness of the Contractor's cost proposal, we are engaging with [redacted] to update their FOSR estimate. This independent third-party assessment determined that the Contractor's [redacted] cost proposal is robust for submission, with details of this assessment to be provided in March 2026 as an amendment to this document.

1.1.14 The robust and transparent Cost Book is under development for submission in March 2026, inclusive of Ofgem's guidance and historic feedback, and will represent the funding request and necessary detail required to enable appropriate review and evaluation of the proposed costs.

1.1.15 All costs presented in this document are in a 2018/19 price base (or an explanation is provided if it is otherwise).

Cost-Benefit Analysis (CBA)- Option commercial re-validation

1.1.16 NGT remains committed to ensuring consumer funds are spent prudently to deliver maximum value. Since the FOSR submission and Ofgem's decision on this project, several geopolitical and market factors have changed, alongside inflationary pressures impacting costs. To confirm the continued viability of the approved option, NGT has undertaken an updated cost-benefit analysis.

1.1.17 The re-run of the Cost-Benefit Analysis confirms that the original FOSR findings remain valid, with no material change in option rankings. While Option 12 offers a marginal advantage on pure Net Present Value (NPV) grounds, Option 14 delivers comparable economic performance while providing superior resilience and reduced reliance on unproven technology. This is further detailed in Section 5.

1.1.18 The approach taken by NGT represents a robust, balanced solution that delivers best overall value for consumers by combining financial efficiency with technical assurance and long-term network reliability.

Final Submission

1.1.19 This re-opener submission will be amended to include detailed costs, technical, procurement, delivery strategy and risk management information meeting Licence requirements of the guidance, for Ofgem assessment in March 2026

2 Cost Benefit Analysis (CBA) - Revalidation of the Preferred Option

This section does not contain business case outline and has been re-shaped only to cover NGT's CBA revalidation for the FOSR preferred option. In the March 2026 submission, the section will cover complete details of the supply and demand scenario and future requirements.

2.1.1 Internal factors such as change in scope, regulatory standards and external factors such as market conditions and inflationary pressures have driven costs higher than originally estimated in the FOSR submission.

2.1.2 To validate the viability of the approved option, NGT has re-run a cost-benefit analysis with updated projected costs.

2.1.3 Although final costs are still under discussion, NGT has applied reasonable assumptions (see 2.1.24) to re-run the analysis and present a realistic view of the program's costs. Details of this exercise are provided in the following sections of this chapter.

FOSR Cost Benefit Analysis (CBA) and Assessment

2.1.4 The Cost-Benefit Analysis (CBA) for St Fergus MCPD was originally conducted to support the FOSR submitted in 2023. Its purpose was to inform the option selection process from a commercial perspective.

2.1.5 The CBA considered capital and operating costs, emissions performance, and constraint impacts against each of the four FES 2021 scenarios: Steady Progression, Leading the Way, Consumer Transformation, and System Transformation, with a further consideration to high constraint price sensitivity against each scenario.

2.1.6 While the CBA provided an economic comparison of options, it was not the sole determinant of the preferred solution; qualitative factors such as resilience and compliance obligations were also key factors.

2.1.7 NGT's option evaluation process analysed CBA outputs while taking factors such as emissions compliance, resilience requirements, and BAT (Best available technique) assessment into consideration to ensure we evaluated a range of investment options against their ability to achieve MCPD compliance and maintain network resilience at one of the most critical sites on the NTS. While FES 2021 scenarios informed the CBA, they were not solely relied upon to determine site-specific needs. Instead, a multi-criteria framework was applied, considering:

- The criticality of St Fergus to UK Security of Supply
- Legislative obligations under MCPD
- Stakeholder priorities and resilience requirements
- The CBA outcome

Option Evaluation

2.1.8 The FOSR included a comprehensive suite of options, with 18 shortlisted, to achieve MCPD compliance and maintain network resilience, as shown in Table 1. These options ranged from counterfactual, retaining [redacted] under Emergency Use Derogation (EUD), to new build configurations and hybrid solutions. The evaluation process combined CBA outputs with BAT assessment and qualitative risk analysis to ensure a balanced decision.

Option Number	Option Description
0	Counterfactual – Retain 4 Avons on 500 hours
1	(Brownfield) - 3 x new 15 mscmd GT's
2	(Greenfield) - 3 x new 15 mscmd GT's
3	(Brownfield) 2 x new 23 mscmd GT's
4	(Greenfield) 2 x new 23 mscmd GT's
5	(Brownfield) 2 x new 15 mscmd and 1 x new 23 mscmd GT's
6	(Greenfield) 2 x new 15 mscmd and 1 x new 23 mscmd GT's
7	(Brownfield) 4 x new 15 mscmd GT's
8	4 x Existing Avon 1533 15 mscmd derated
9	3 x Existing Avon 1533 15 mscmd derated
10	4 x Existing Avon 1533 15 mscmd DLE
11	3 x Existing Avon 1533 15 mscmd DLE
12	2 x new 15 mscmd GTs (Brownfield) and 2 x Avon 1533 (15 mscmd) existing with DLE
13	1 x new 15 mscmd GTs (Brownfield) and 3 x Avon 1533 (15 mscmd) existing with DLE
14	3 x new 15 mscmd GTs (Brownfield) and 1 x Avon 1533 (15 mscmd) existing with DLE
15	1 x 23 MW + 1 x 15MW (Brownfield)
16	2 x 15MW (Plant 2) +1 DLE (Plant 1)
17	1 x 15MW (Plant 1) + 2DLE (Plant 2)
18	2 x 15MW (Brownfield)

Table 1: Options considered in St Fergus FOSR CBA

2.1.9 Within the options, [redacted]

2.1.10 The CBA within the FOSR used FES 2021 scenarios to model future flows and possible constraint costs. However, the FES inputs do not fully capture the criticality of St Fergus to UK Security of Supply or the potential high cost of supply interruption. Consequently, while CBA results informed the economic case, they were not the sole determinant of the preferred option.

2.1.11 Section 7.1 of the FOSR defines the key CBA drivers and the impact of constraints and sensitivities. The cost of constraints carries significant uncertainty due to the complexity of calculation. To assess this impact, NGT evaluated a sensitivity scenario based on the upper end of buyback prices observed during the St Fergus Buyback event in 2006. This analysis, referred to as the high constraint price scenario, is presented in sections below.

2.1.12 The CBA confirmed that the ability to provide unrestricted capability at the low end of the flow scale was the key driver in option selection. Among the options that met this requirement, cost remained the primary differentiator. While all options delivered a positive relative NPV compared to the counterfactual, upfront capital cost was a key factor. Options with more new units incurred higher capex but offered reduced constraint exposure and operational bottlenecks.

2.1.13 In the flow-demand scenario analysis conducted in the FOSR, NGT identified that St Fergus requires [redacted] units across Plant 1 and Plant 2 by 2030 to meet the flow requirement.

CBA re-run option shortlist

2.1.14 Whilst the FOSR covers all 18 options, NGT focused primarily on a smaller set of options at this stage (CBA re-run) informed by the decision tree shown in Figure 1 below:

2.1.15 The shortlist was:

- **Option 0 (four 500 hours Derogated Units)**: For benchmarking purposes only, this option is called the counterfactual.
- **Option 1 (three new [redacted] sized Gas Turbines):** This option had a high NPV but provides lower resilience and no balance among the two plants compared to four-unit configurations.
- **Option 12 (two new [redacted] sized Gas Turbines and two asset health refurbishments with DLE):** Best NPV in the range of options, balanced resilience between plants. Retrofit [redacted] DLE is still unproven technology, so there is an inherent risk that two units would be derogated to 500 hours, reducing capability and resilience, if retrofit [redacted] DLE was unsuccessful.
- **Option 14 (three new Avon sized Gas Turbines and one asset health refurbishment with DLE)**: High NPV option, with greater capability than Option 12 as it has more unrestricted units.

2.1.16 Resilience and security-of-supply considerations underpin the decision to proceed with three new units. Constraint sensitivity analysis showed that under high buy-back price scenarios, constraint costs could significantly exceed the capital cost savings associated with derogation-based options. This reinforced the need for physical capability to avoid severe market disruption and protect UKCS and Norwegian flows.

[redacted]

2.1.17 As summarised in Table 2, the highest NPV option that met the balance of plant requirement was Option 14, which consists of three new 15 MW units and one DLE retrofit. While Option 12 has the best NPV across all FES scenarios and sensitivities, Option 14 consistently ranked within the top three options.

2.1.18 The price sensitivity CBA is summarised in Table 3. The results differ from the standard price, for the Steady Progression and System Transformation sensitivities, as Option 14 is now the most economical.

2.1.19 Combining the CBA results and the other decision-making criteria led to NGT selecting Option 14, three new gas turbines and one derogated unit, as the chosen option. It consistently ranked within the top three across all scenarios, minimised constraint risk, and supported technology development without overexposing the site to unproven solutions. High constraint sensitivity and market impact analysis strongly favoured options that maintained four units across two plants, ensuring security of supply after 2030.

[redacted]

Re-run CBA with updated cost estimates

2.1.20 Since the FOSR submission, costs for delivery have increased due to scope refinements and market conditions. This is further detailed within Section 3 of this submission.

2.1.21 To ensure our investment approach conforms to value led spending of consumer's money, we updated the CBAs using revised cost estimates as of November 2025 (still under development). Note: These costs were not finalised for Asset health submission at the time of CBA re-run, the figures utilised to re-run the CBA are mentioned within assumptions section beginning at 2.1.

2.1.22 This projected cost includes [redacted] accuracy for new build units and asset health costs for the retained Unit 1A. We haven't considered additional costs associated with the integration of Control systems replacement project at this stage as the indicative costs are yet to come from the MWC.

2.1.23 The CBAs represent an average view of potential future outcomes and do not adequately account for prolonged outage scenarios or the risk of environmental penalties if [redacted] units exceed legal run-hour limits. These resilience benefits cannot be fully monetised within the CBA framework but remain critical for operational security and are a key part of our decision-making criteria.

2.1.24 The CBA has been conducted only against two FES scenarios, Steady Progression and Leading the Way. This aligns to how NGT have conducted CBA analysis for RIIO-GT3 submission, conducting them primarily against the high gas, Steady Progression Scenario, with a sensitivity to Leading the Way Scenario.

Assumptions

2.1.25 We have assumed that Asset Health work required for Unit 1A has a cost of [redacted] We assume that building three new units has a cost of [redacted] This is based on the best available cost estimate we had at the time.

2.1.26 To cost Option 0, we have assumed that the required asset health for Unit 1A would be replicated on the three other retained [redacted] so have multiplied this cost by four, [redacted] (2018/19).

2.1.27 To cost Option 1 we have used the cost for building the three new Units only, [redacted] (2018/19).

2.1.28 To cost Option 12, we have taken the incurred new unit costs from this financial year and years previously as they are [redacted] 2018/19). For all subsequent years have multiplied this cost by 2/3 to account for the partial delivery of two out of the three units, [redacted] We have assumed that the required asset health for Unit 1A would be replicated on the other retained [redacted], so have multiplied this cost by two, [redacted] (2018/19). Combining all these gives an Option 12 cost of [redacted] (2018/19).

2.1.29 To cost Option 14 we summed the Asset Heath cost for Unit 1A, [redacted] (2018/19) with the cost for three new units [redacted], to give [redacted] (2018/19).

2.1.30 We have phased the cost using the phasing as provided in the estimates for each element.

2.1.31 To maintain consistency, we have simply overlaid the new costs into the old CBA, changing the capitalisation rate to [redacted] Therefore, the weighted average cost of capital WACC and depreciation rate remain as submission.

2.1.32 There were several other costs included here such as Opex and other asset health. We have taken these out of to show the full effect of re-costing the options.

CBA re-run conclusion

2.1.33 As the cost of new units has increased proportionally more than the cost of the asset health components, Option 14s NPV has reduced relatively compared to hybrid options like Option 12 (two new units + two AH units), which have experienced smaller cost increases.

2.1.34 Despite this, the ranking of leading options remains broadly unchanged, with marginal differences in NPV across scenarios. The resilience benefits of having four [redacted] sized units, in Option 14's case three new units and one derogated unit, are critical for maintaining capability under high-flow and outage conditions. These remain unquantified in monetary terms but were a key factor in Ofgem's approval of the preferred approach.

2.1.35 The outcome of the CBAs with the updated costs are shown in Table 4 and Table 5. Table 4 shows the relative NPV of each option under the two FES scenarios. Table 5 shows the same for the high constraint price sensitivity.

[redacted]

[redacted]

[redacted]

2.1.36 There are no changes in ranking under either FES scenario's reference price sensitivity or the leading the way high-price sensitivity.

2.1.37 There are changes observed under the high-price sensitivity scenario. Under the steady progression high-price constraint scenario, Option 14's NPV has decreased by a much greater margin than 12. Options 12 and 14 are now tied in ranking for first, whereas before Option 14 was the more economical option.

2.1.38 The CBA re-run confirms that the initial FOSR results remain largely unchanged, with no material shift in option rankings.

2.1.39 While Option 12 continues to appear more favourable on a purely economic basis, Option 14 remains the preferred solution due to its superior resilience and lower dependence on unproven technology as detailed within the FOSR.

2.1.40 Specifically, under the steady progression high-price constraint scenario, Options 12 and 14 exhibit similar NPVs and are effectively tied in ranking, reinforcing the technical strength of Option 14 with financial alignment while offering a critical technical advantage: if a DLE retrofit on the existing unit does not perform as expected, Option 14 minimises the capability gap by limiting derogated units to one, rather than two as in Option 12.

2.1.41 NGT will continue to progress Option 14 as it balances the CBA results with our resilience and flow requirements, while minimising the capability risk in the event of retrofit Avon DLE not being implemented.

3 Engineering and Costs

This section has not yet been finalised since it is largely dependent on the finalisation of the cost estimates, which will be provided in the March 2026 submission as agreed with Ofgem. The final chapter will demonstrate how the final cost estimate was developed including project programme and risks.

3.1 Preface to Cost Estimate

3.1.1 At the FOSR stage (in 2022/23) the cost estimate was produced to [redacted] cost certainty using a methodology that was reliant on factored costs and historic cost data. Since then, increases have become evident through the ongoing compilation of a cost estimate with a [redacted] cost certainty due to be provided in an update to this EJP in March 2026 as agreed with Ofgem.

3.1.2 A range of internal and external factors have been identified as drivers of cost escalation and are detailed in the following section. To validate and benchmark these changes, NGT engaged a third-party consultant [redacted] to conduct an independent review of costs, examining the progression from the original FOSR estimate through to the latest contractor submissions. This review leveraged industry knowledge, database information, and market research to assess previous estimates against updated cost bases and trends, including inflationary impacts and market conditions.

Internal Factors

3.1.3 The FOSR estimate included allowances for design development, unallocated provisions, and risk; however, several key developments have occurred since that stage, resulting in additional costs not covered by these allowances. The most significant updates are summarised below.

3.1.4 **Existing Brownfield site Foundation / Concrete plinth removal**: The FOSR estimate was based on the new compressors being located on the existing concrete plinths (and piling), following decommissioning and removal of the previously installed [redacted] packages and Compressor Acoustic Buildings (CABs). However, subsequent detailed inspections and assessments have determined that the existing concrete structures are non-compliant with the installation requirements for the new units and their integrity and quality cannot be guaranteed for the expected lifetime of these units. Consequently, the project scope now necessarily includes removal of the existing concrete bases and piling ahead of re-piling and reinstatement of concrete foundations as required to match the demands of the new equipment.

3.1.5 **Control System Integration**: During the FOSR stage, a risk was identified regarding the interface between the existing station control system, the planned Control System Replacement Project (CSRP), and the new compressor units. This risk was flagged for detailed assessment during the design phase. Subsequent design work has confirmed that the new compressor units will require integration of their Unit Control Systems (for [redacted] —existing units to be decommissioned) with the Plant Control System, which in turn interfaces with the terminal-wide CSRP. As the CSRP was originally focused on linking existing units only, additional controls and data input / output (I/O) capacity must now be provided to accommodate the new units within the plant control architecture.

3.1.6 **Other Scope additions**: Since the FOSR stage, several updates to technical standards have been incorporated during the feasibility phase. One notable change is the requirement for a separate hard-wired safety system, which introduces additional complexity to the overall control and protection architecture.

External Factors

3.1.7 The estimated cost for the St Fergus MCPD new unit installation has been significantly influenced by the enduring effects of global market volatility. Previous projects such as ERP3 and Hatton were initiated prior to the geopolitical and economic disruptions experienced since 2019. Events including COVID-19, Brexit, the Russia–Ukraine conflict, and U.S. trade tariffs have had widespread impacts on global markets. While some earlier projects benefited from price protection under their contracting models, these events have altered supply and demand dynamics both in the UK and internationally. The resulting effects on time and cost for project delivery have extended across multiple sectors, including steel, energy, and other raw materials. Key impacts include:

- **Inflation** - Since 2019, UK inflation (CPI) has increased by approximately 27–30% cumulatively (2019–2025), driven by pandemic disruptions, energy shocks, and supply chain crises (UK CPIH approximately 25–27% cumulatively).
- **Material Prices** - 37% increase in the price of all types of building materials since January 2020.
- **Steel prices** have experienced significant fluctuations due to global economic shifts (post pandemic recovery and infrastructure spending), supply chain disruptions and high demand.
- **Concrete prices** have steadily increased, driven by rising material costs, labour shortages, and strong demand in the construction sector post pandemic.
- **Labour** – due to competition for talent and labour shortages average UK salaries have increased by circa. 35% from 2019 to date (ONS data). Some specialist roles have seen even higher increases (welders, electrical engineers). Construction pay is currently rising faster than almost all other sectors and is growing at its second highest rate since coming out of the pandemic. This is also exacerbated by the competition for talent with the salary offerings within the Oil and Gas industry, an industry with a large hold over labour within the St Fergus region. A large electrical power-driven project with SSE is also pushing up labour rates in this locale.
- **Logistics** - freight costs increased by nearly 5 times during peak disruption and some rates remain over double pre-pandemic costs. There has recently been a large amount of major infrastructure investment in the UK including significant investment in the utilities sector which has driven higher prices as projects compete for the same limited pool of suppliers, as identified above for the St Fergus region. Between 2018 and 2025 the Building Cost Information Service (BCIS) Indices indicate that the All-in Tender Price Index (TPI) has increased by 38%. While the TPI is only slightly higher than inflationary increases, this figure reflects broad contractor pricing trends and does not account for several key cost drivers specific to St Fergus MCPD. The indices do not provide granular visibility into the cost of critical materials, such as high-grade steel, nickel alloys, and instrumentation components, nor do they reflect the logistical and efficiency constraints of brownfield installations. These factors introduce significant variability that high-level indices and benchmarks cannot accurately reflect.

3.1.8 A critical shift in market dynamics since NGT contracted previous compressor projects (e.g., Hatton LCP and ERP3) has been the change in supplier and contractor appetite for risk. Volatility experienced since 2019—combined with the collapse of Carillion in 2018—has driven a fundamental change in contracting behaviour. Main Works Contractors are now unwilling to accept certain terms, delivery responsibilities, or levels of uncertainty without provisions for change or additional cost recovery. This has resulted in a move toward greater early contractor involvement (ECI) and away from traditional fixed-price contracts. This market hardening reflects a tightening of contractual terms and risk coverage, driven by increased insurer caution and contractor reluctance to absorb uncertainty, resulting in higher premiums and stricter exclusions. This trend has been further exacerbated by significant increases in contractor insurance premiums, which form part of overall contract pricing. Market hardening and a shift towards stricter, less lenient conditions has limited risk coverage and introduced broader exclusions, increasing costs and reducing flexibility in risk allocation.

This chapter will be further supplemented in next submission in March 2026.

Glossary	
Avon	Rolls Royce (Siemens) gas turbine engine SGT-A20 which forms part of the compressor machinery train and is subject to MCPD.
BAT	**Best Available Technique:** The most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing the basis for emission limit values and other permit conditions designed to prevent (and where that is not practicable), to reduce emissions and the impact on the environment as a whole.
Brownfield	Construction within the existing site perimeter fence.
Capability	The physical limit of the NTS to flow a volume of gas under a given set of conditions; this may be higher or lower than the capacity rights at a given exit or entry point.
CEPRAt	**Compressor Emissions Baseline Allowances Term.**
CEPROt	**Compressor Emissions Re-opener Allowances Term.**
Compressor Station	Equipment used to compress gas to high pressure for transport through the NTS. Each compressor station consists of one or more compressor units as well supporting equipment such as meters, filters, valves and pipework. Compressor units can be driven by gas turbines or electric drives.
CSRP	**Control System Restricted Performance:** Technology that restricts the performance of a gas-driven compressor to limit NO_x emissions.
CBA	**Cost Benefit Analysis:** A mathematical decision support tool to quantify the relative benefits of each site option.
Counterfactual	The counterfactual option represents current network with minimum interventions to comply with emissions legislation.
DLE	**Dry Low Emissions:** An Avon DLE retrofit modifies the combustion system within the Avon engine so that air and fuel are premixed before combustion. This reduces the peak combustion temperature, which in turn reduces the amount of NO_x produced.
EAC	**Estimate Cost at Completion:** The total cost of the project at completion.
ECC	**Estimate to Complete Cost:** The remaining cost to complete the project.
ECI	**Early Contractor Involvement.**
EUD	**Emergency Use Derogation:** Compressor unit derogated under the MCPD limited to run 500-hours per year on a rolling 5-year average, with a maximum limit of 750-hours in any one year. This removes the use of the compressor from standard operation, where they can only be run to prevent commercial constraints (Essential Use) or exit constraints (Emergency Use) on the network.

Emission Limit Values (ELV)	Limits set for industrial installations by the LCP directive and IPPC under the umbrella of the IED and MCPD.
Emission Abatement	Includes technology that reduces the emissions from a gas-driven compressor.
ERP3	**Emissions Reduction Phase 3**: Project to install two new Solar Titan 130 driven compressor trains at Peterborough and Huntingdon as part to replace the capability of two of the three Avon's at each site under an IPPC emissions driver.
FOSR	**Final Option Selection Report.**
FES	**Future Energy Scenarios:** An annual industry-wide consultation process encompassing questionnaires, workshops, meetings and seminars to seek feasibility back on latest scenarios and shape future scenario work. The Future Energy Scenarios document is produced annually by National Grid ESO and contains their latest scenarios.
Greenfield	Construction on land that is outside of the existing perimeter site boundary, where there is no need to demolish or rebuild any existing structures.
IPPC	**Integrated Pollution Prevention and Control:** A regulatory system that employs an integrated approach to control the environmental impacts of certain industrial activities.
Intrusive Outage	Significant outage works impacting the whole station and where the station cannot be returned to service until the scheduled works are completed.
LCPD	**Large Combustion Plant Directive:** An EU directive to reduce emissions from combustion plants with a thermal output of 50 MW or more. Combustion plant must meet the emission limit values (ELVs) given in the LCP directive for NO_x, CO, SO_2, and particles.
MCPD	**Medium Combustion Plant Directive:** A directive to reduce emissions from combustion plants with a net thermal input between 1-50 MW.
Contractor	Main Works Contractor.
NTS	**National Transmission System:** The high-pressure system consisting of terminals, compressor stations, pipeline systems and offtakes. Designed to operate at pressures up to 85 barg. NTS pipelines transport gas from terminals to NTS offtakes.
NDP	**Network Development Process:** The process by which National Grid identifies and implements physical investment on the NTS.
NGT	National Gas Transmission.
OEM	**Original Equipment Manufacturer:** The company that originally produced the equipment eg. Solar which produces the Titan 130 turbine.
Ofgem	**Office of Gas and Electricity Markets:** The regulatory agency responsible for regulating Great Britain's gas and electricity markets.
Re-opener	Re-openers are a type of RIIO uncertainty mechanism. Depending on their design, they allow Ofgem to adjust a licensee's allowances (in some cases up and in some cases

	down), outputs and delivery dates in response to changing circumstances during the price control period.
RIIO	**Revenue = Incentives + Innovation + Outputs:** RIIO-T2 is the second transmission price control review to reflect the framework; it sets out what the transmission network companies are expected to deliver and details of the regulatory framework that supports both effective and efficient delivery for energy consumers.
UAP	Unallocated Provision.
Uncertainty Mechanism	Uncertainty mechanisms exist to allow price control arrangements to respond to change. They protect both end consumers and licensees from unforecastable risk or changes in circumstances.
Unit Outage	Significant outage works impacting one or more compressor units on a compressor station, the unit cannot be returned to service until the scheduled unit works are completed, however, the station can still operate with other available units.
United Kingdom Continental Shelf (UKCS)	The region of waters surrounding the United Kingdom, in which the country claims mineral rights.