

NGT_AH2_11

Bacton Investment Strategy Summary

Asset Health Reopener

June 2023

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Executive Summary

Following on from the RIIO-T2 Final Determinations, the strategic direction for our investment proposals at Bacton has needed to change for several reasons. The original RIIO-T2 proposals for brownfield development have been shown now not to be viable due to a multitude of changing circumstances which include:-

- Compliance with latest safety obligations on spacing and minimum separation distances of differing types of above ground plant and equipment, sources of release from adjacent plant; and the risk of an escalation event
- The ongoing Russia/Ukraine crisis, and high sustained export flows into Europe (and the criticality of maintaining such continental supplies)
- A significantly increased risk related to liquid and dust entering the facility (due to such continued high export flows)
- Increased interest and proposals related to new Hydrogen developments in the area which required a review of the existing flexibility and diversity the current Terminal arrangement provides.

It must be recognised that Bacton is one of the most strategically important sites on the NTS. It delivers significant volumes of gas in and out of the country, connects the UK to EU markets, has Upper-Tier COMAH classification and delivers gas to local Distribution and Power-station customers, via five National Transmission System (NTS) feeders that supply a vast area of the southeast including London.

It is imperative that we safely manage this site in the short, medium and long term and our revised investment strategy seeks to achieve this by adopting a two-phase strategy to ensure clarity between Phase 1 No Regrets Asset Health investments and Phase 2 long-term site operating strategies. Our Future Operating Strategy (FOS) options assume a common option until 2035, and these investments are aligned against this option and timescales.

Our Bacton Phase 1 (Short (Accelerated) & Medium Term) strategy ensures we have certainty on the Terminal operation requirements for operation out to 2035 and includes the investments required to facilitate this. It will provide certainty of investments as no-regrets based on the current options developed through the Front-End Engineering Design (FEED).

We have split our Phase 1 Strategy into two categories.

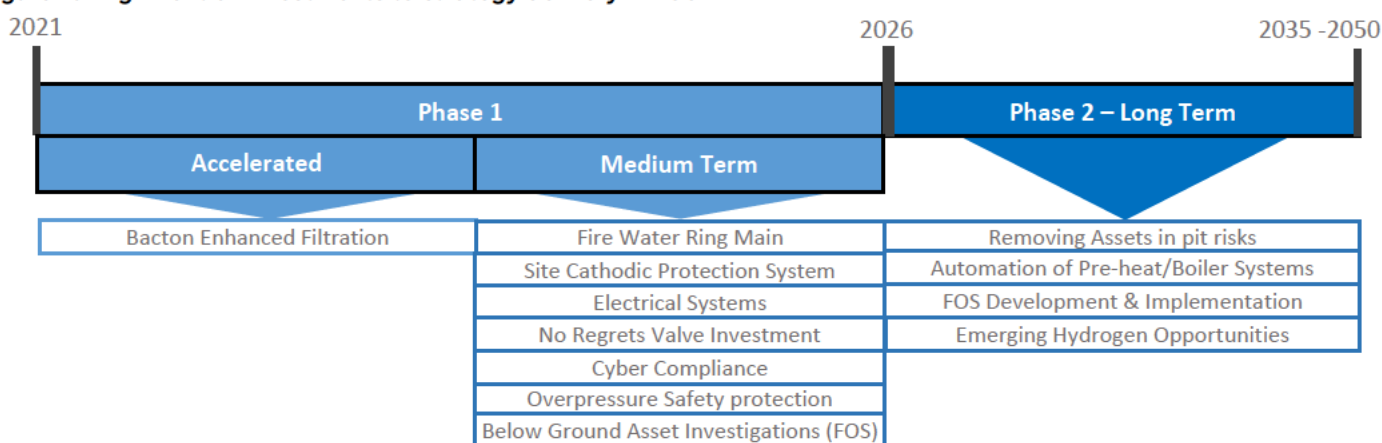
- Accelerated investments have been categorised due to the current impact the needs case is posing to Terminal operations. Doing nothing is not an option and investments have commenced at risk. Delivery of these investments is proposed to be undertaken in RIIO-T2. Funding for these investments will be requested through the June 2023 Asset Health Uncertainty Mechanism (UM) windows.

- Medium Term investments have been identified as no regrets based on the options under consideration through the FOS workstream. Funding for these investments is proposed to be requested through the June-23 and Jan-24 Asset Health Reopener windows, or the Cyber OT year 3 reopener window.

The Phase 2 long-term strategy will deliver the enduring Terminal solution required for operation beyond 2035, including net zero futures, as part of the Bacton Terminal Site Redevelopment Reopener and Price Control Deliverable, for which a Final Option Selection Report shall be submitted in Q3 2023/24. Delivery of these Investments shall commence in RIIO-T2.

Based upon this strategy, for Phase 1 Investments, are a series of Engineering Justification Papers (EJPs) which will be submitted to Ofgem through various RIIO-T2 reopeners. These EJPs will cover the investments listed in Figure 1.

Figure 1: Alignment of investments to strategy delivery window



In developing our Bacton Future Operating Strategy a small number of no regrets investments have been identified, can commence in RIIO-T2 and seek to manage the current risks to terminal operations. Whilst a range of options are being considered within the Bacton Future Operating Strategy FEED study, our base assumption is that these options are implemented during the mid-2030's with a common option until this point of Asset Health investment. Post 2035 the option inflection occurs between Greenfield terminal extension options and the counterfactual asset health option. Based on our preliminary results the asset health option is our preferred option. Further information shall be included in our FOSR submission.

Therefore the requirement to manage Bacton Terminal asset risk up to 2035 is required across all options, and our investment strategy seeks to optimise our investment at the site in the short term.

1. Bacton Investment Strategy Introduction

- 1.1 Through the RIIO-T2 submission National Gas Transmission, hereafter called NGT, developed a proposal to redevelop Bacton Terminal utilising land within the existing terminal footprint. As part of additional Front End Engineering Design (FEED) during RIIO-T2 it was determined that the RIIO-T2 proposals for brownfield development was now not to be viable, due to the outcome of a FPSA (Formal Process Safety Assessments) study.
- 1.2. Further options are currently in development within this FEED study with a Final Option Selection Report to be submitted to Ofgem in [REDACTED].
- 1.3. Whilst the FEED study has been in development a full reassessment of the need across the short, medium and long term has been carried out. A number of short to medium term investments have been identified that were either part of the long-term site solution or are new investments. Investments within these categories that are no regrets have been identified for assessment within the strategy.
- 1.4. NGT is considering options to submit Engineering Justification Papers utilising the Asset Health Reopener submission windows to request funding for these no regrets investments.
- 1.5. This document provides a summary of the revised investment strategy and the investments being developed. It also provides an update on our progress to develop our Future Operating Strategy (FOS) Final Options Selection Report (FOSR). The investment strategy was approved by the Gas Transmission Investment Committee in September 2022 and submitted to Ofgem in our January 2023 Asset Health reopener window. This document is an update to that submission.

2. Site Overview

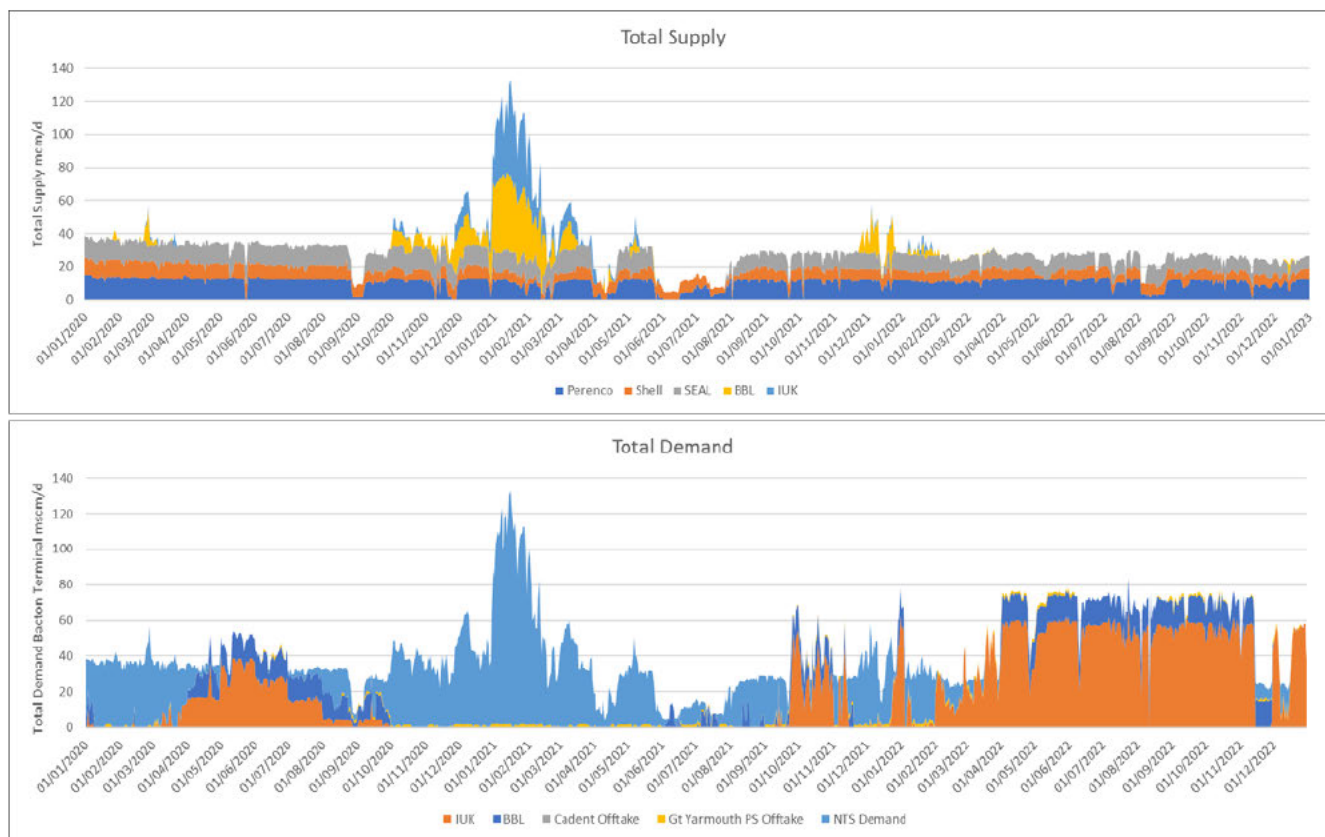
- 2.1 Bacton Terminal is located on the east coast of the UK. Bacton is one of the UK's nine gas Terminals connected to the NTS, located 20 miles from Great Yarmouth. It is a site of strategic importance, capable of supplying up to a third of the UK gas demand on a winter day, whilst also able to export to the continent via the two interconnectors. The plant was built and commissioned in 1968 and operates 24 hours a days 365 days a year, regularly supplying in the range of 10% to 20% of the UK's natural gas supplies.
- 2.2 The Terminal connects two sub-Terminals (Currently owned by Shell and Perenco) and two interconnectors (Interconnector UK and BBL) to the UK National Transmission System (NTS). Gas enters the Terminal at a maximum pressure of [REDACTED] (Safe Operating Limit (SOL)) and within the Terminal has a [REDACTED].
- 2.3 NTS feeders 2, 3, 4, 5 & 27 connect the wider NTS network into the Terminal and can be used to transport gas from the terminal from upstream terminals (Shell/Perenco) or BBL & Interconnector UK into the NTS. Feeders 2,4 & 27 are also generally utilised for bulk

transmission from the NTS into the terminal for/export transmission for Interconnector UK and BBL.

Figure 1 Bacton Terminal Location



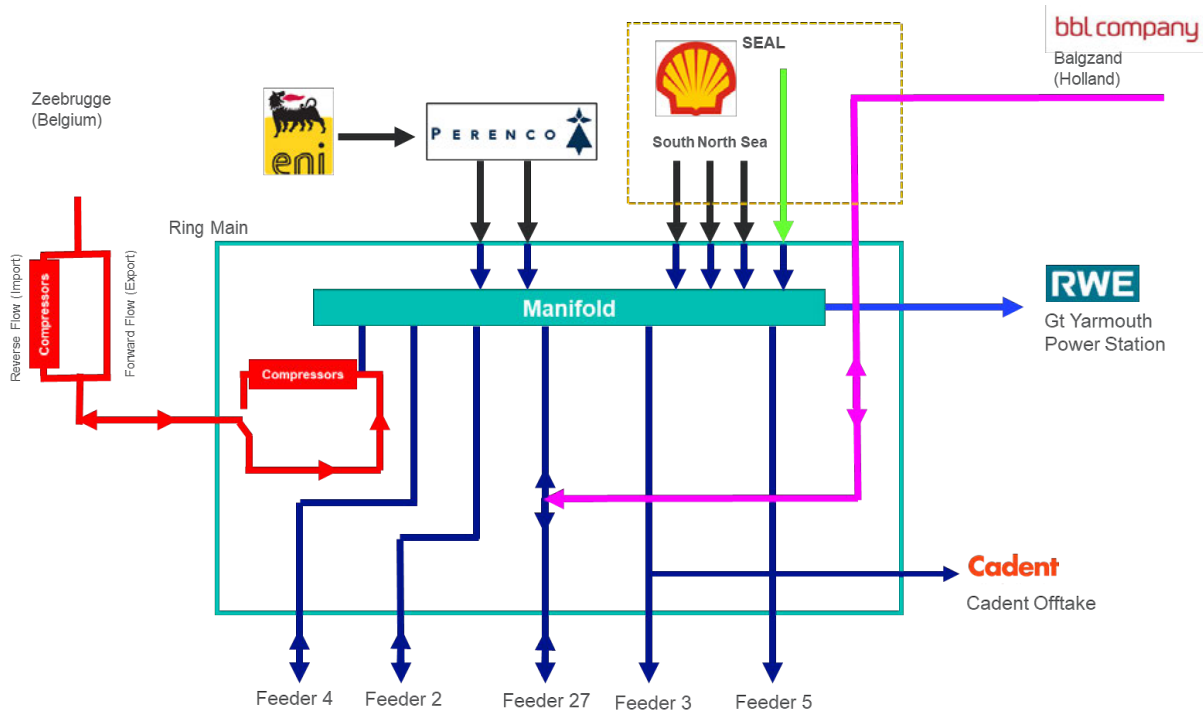
2.4 United Kingdom Continental Shelf (UKCS) supplies into the Terminal provide a base level of supply throughout the year, with Interconnector supplies and demands being reflective of market conditions both in the United Kingdom and Mainland Europe. The graphs below, shown in Figure 3 & Figure 4, evidence the variations in supply and demand patterns at the site.



2.5 A significant change to the utilisation of the site has been seen during calendar year 2022. An increase in Interconnector exports from the site have occurred due to the geopolitical situation in Europe and the impact this has had on the gas market supply and demand fundamentals.

2.6 The figure below provides a summary of the Terminal configuration and the connected customers. There are two UKCS offshore connections at the Terminal, Perenco (production commenced 1968) and Shell (production commenced 1999). Gas is also produced by ENI but is transported into Perenco's terminal to process before entering the NGT Terminal. These provide a base level of supply, and each operator is governed by its own Network Entry Agreement (NEA).

Figure 2 Bacton Terminal Overview

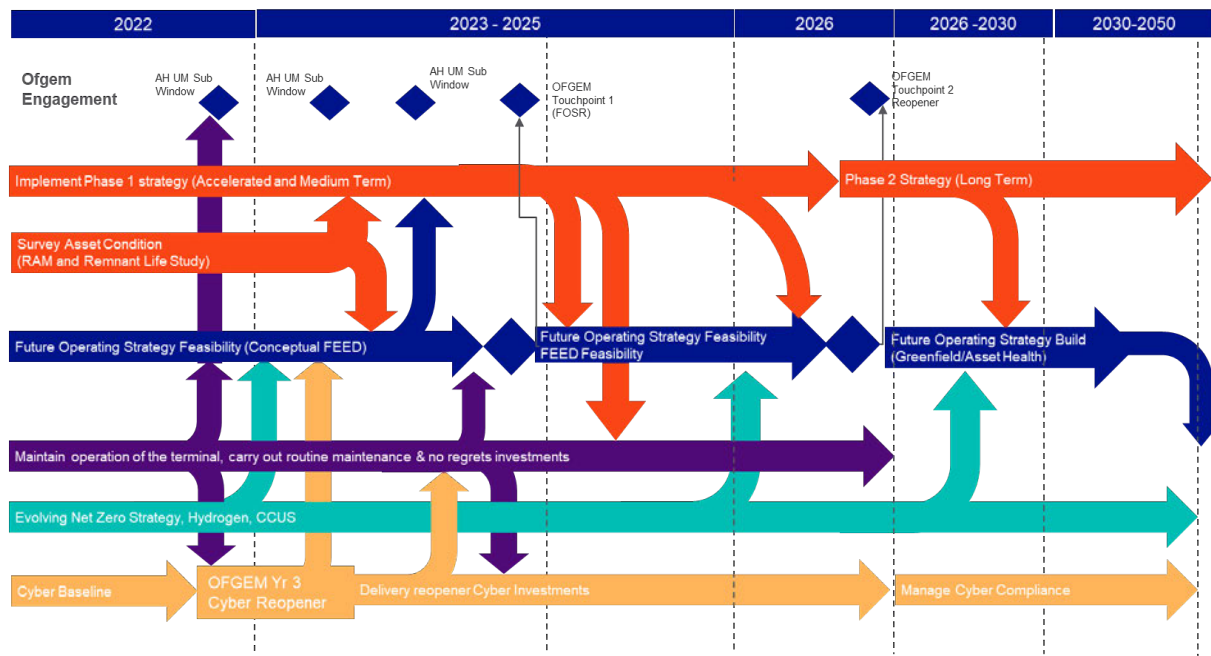


2.7 Two Interconnectors connect into the Terminal. Interconnector UK has compressors located at the site to assist with operations. These interconnectors can import and export to and from the Bacton Terminal. In addition, we have two other directly connected customers at the site, RWE Great Yarmouth power station and Cadent Bacton GDN offtake.

3. Investment Strategy and FOS Interaction

- 3.1 Bacton Terminal is critical in supporting UK Security of Supply and also European Security of Supply, especially in the current geopolitical environment. It ensures customers will be able to take gas on and off the system where and when they want providing the necessary energy needs for domestic, commercial, and industrial use.
- 3.2 Many of the assets at Bacton Terminal are of first generation and nearing or over their original design life; the design life of most asset systems is between 15-40 years. The condition of the assets and their expected continued deterioration over time presents a gradually increasing risk that needs managing. Several assets are failing which has implications and restrictions on the mode of operation of the terminal, reducing site flexibility. These issues coupled with the consequence of failure has the potential to significantly impact on UK and European Security of Supply.
- 3.3 Our Bacton Investment Strategy seeks to optimise the management of our assets at Bacton Terminal from RIIO-T2 out to 2050. The strategy seeks to optimise our short-term investment with our long-term terminal requirements. It works in parallel with our Bacton Future Operating Strategy (FOS) workstream, under which our FEED Feasibility and Final Options Selection Report are in development. This latter workstream seeks to develop our long-term strategic investment direction at Bacton.

Figure 3 Bacton FOS Development Interactions



- 3.4 During RIIO-T2, we will conclude a significant FEED study to determine the best way to meet our site requirements until 2050 (Our Future Operating Strategy), whilst maintaining the remaining plant through a combination of our Asset Health baseline and Uncertainty mechanism funding.

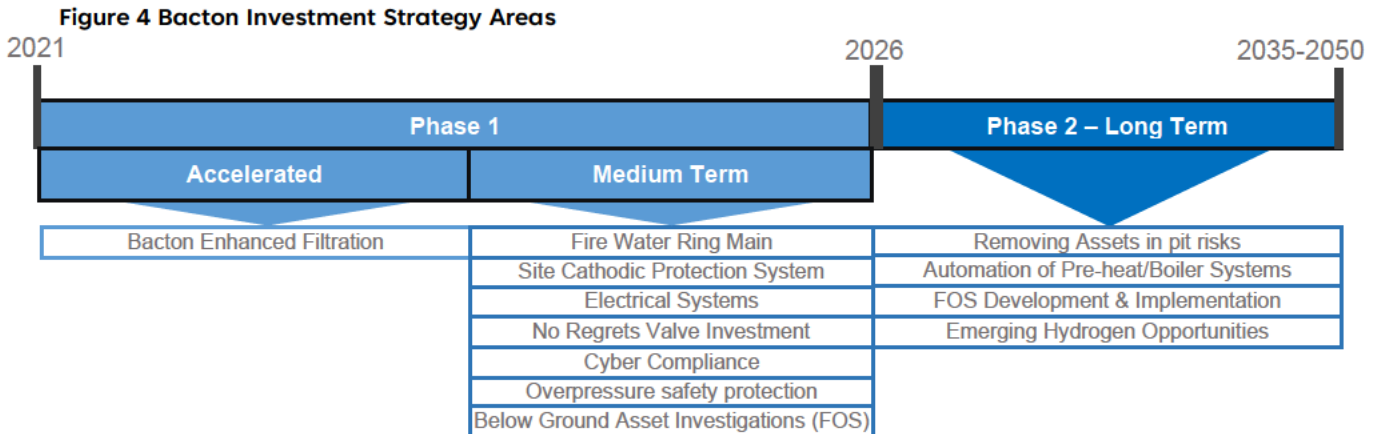
- 3.5 The feasibility study shall include all necessary surveys, assessments, risk identification, cost estimates (+/-30%), programme and design development to enable a submission to Ofgem under the RIIO-T2 Bacton Future Operating Strategy Uncertainty Mechanism. Progression of Reliability, Availability and Maintainability studies, Remnant life studies and Cathodic Protection (CP) studies have been completed to enable us to include accurate information on the condition of our below ground terminal assets within the FOS FEED feasibility study.
- 3.6 The Preliminary FEED results are anticipated in Q2 2023 with our current programme to submit a Final Options Selection Report to Ofgem in [REDACTED].
- 3.7 In developing our Bacton FOS a small number of no regrets investments have been identified, can commence in RIIO-T2 and seek to manage the current risks to terminal operations. Whilst a range of options are being considered within the Bacton Future Operating Strategy FEED study, the assumption was that these options were implemented during the mid-2030's with a common option until this point (Asset Health Investment). Post 2035 the option inflection occurs between Greenfield terminal extension options and the counterfactual asset health option.
- 3.8 Therefore the requirement to manage Bacton Terminal asset risk up to 2035 is required across all options, and our investment strategy seeks to optimise our investment at the site in the short term.
- 3.9 The following section shall explain the investments within our investment strategy and the current position

4. Investment Strategy

- 4.1 Our Bacton Investment Strategy seeks to optimise the management of our assets out to 2050.
- 4.2 Our RIIO-T2 investment plans were developed in themes and broadly can be split between no regrets Asset Health, Redundant Assets and Physical Security investments and funding to develop Future Operating Strategy (FOS) options. Asset Health, Decommissioning & Physical Security investments have received baseline funding, are currently in different stages of delivery on site and therefore whilst linked to our strategy are not directly impacted.
- 4.3 Our Bacton investment strategy has been split into two Phases (Phase 1 & Phase 2). Our Phase 1 Strategy will manage asset risks across the Terminal where investment needs to progress in RIIO-T2 to manage existing terminal risks that have the potential to impact on terminal operations and security of supply. Investment shall continue to be assessed for 'no regrets' status against the Bacton FOS options. All investments identified are currently assessed as no regrets.

4.4 Our Phase 2 Long Term strategy investments shall be delivered through or in parallel to the FOS, delivering long term value and managing asset integrity. This strategy shall iterate through emerging clarity on FEED optioneering but will support the utilisation of Bacton as a strategic entry/exit point on the network now and into the future.

4.5 Figure 3 provides a summary of our Strategy.



4.6 All investment proposed in Phase 1 of our strategy relate to where we do not have baseline funding within our RIIO-T2 Business Plan. Where Asset Health Uncertainty Mechanisms are available, we propose that these will be utilised in accordance with the RIIO-T2 final determination and license conditions.

4.7 In addition, the Cyber OT Year 3 reopener is proposed to be utilised to request funding for the Cyber OT elements for the Phase 1 Medium term Strategy.

4.8 Accelerated investments, within Phase 1, have been categorised to reflect the materiality of the impact from a no investment position. Funding for these investments will be requested through the June 23 Asset Health Reopener window, with our needs case submitted in the January 23 window.

4.9 Medium Term investments have been identified as no regrets based on the options under consideration through the FOS workstream. Funding for these investments will be requested through the June 23 and January 24 Asset Health Reopener windows and Cyber OT year 3 reopener.

4.10 Early discussion with Ofgem on our Strategy has been undertaken and the interaction with the FOS workstream, including the emerging scopes and options to fund all the works that are efficient and no regrets against all potential options available through the Future Operating Strategy (FOS) workstream.

Phase 1 - Accelerated

Bacton Enhanced Filtration (Jan 23/June 23)

- 4.11 Filtration is currently installed on the incomers at the site to ensure gas entering the site is in line with GS(M)R specification. Solids and Liquids are produced during the offshore production process and filtered both by the upstream provider and by National Gas Transmission upon entering Bacton Terminal. Within our Terminal several filters are installed on each incoming stream that are designed to filter solids and dust particles above two-micron particle levels. We have no equipment assets (such as coalescers) to collect and mitigate liquid excursions or any installed filtration on our feeders (Feeder 2, 3, 4, 5 & 27) to filter gas coming into the Terminal from the NTS.
- 4.12 Recent network operating conditions driven by the Russia Ukraine conflict has resulted in significant exports from the UK to Europe through Bacton Terminal with Feeders 2, 4 and 27 used for bulk transmission to Bacton Terminal. With there being a high and sustained West – East flows of gas, there is a greater likelihood of internal pipe-work debris ending up at Bacton from across the whole network. A number of issues have occurred resulting in disruption to European exports due to the build-up of material within our filters and our customers filters.
- 4.13 Investigations across the network have not identified any significant collection of material, investigations have focussed on the understanding any build-up of materials at filters on other sites, including King’s Lynn Compressor & [REDACTED] on Feeder 2. Nothing has yet been identified. Additional In Line Inspections (ILIs) have been completed with [REDACTED] of solids removed from Feeder 4 from a November 2022 inspection.
- 4.14 To mitigate the impacts of dust and liquid we have adopted an enhanced ‘best endeavours’ terminal operating strategy to provide additional filtration by recirculating the incoming NTS gas from Feeders 2 & 4 back through the terminal Ring Main into spare existing incomer streams & associated filtration equipment. This enables up to [REDACTED] to be double filtered at the site.
- 4.15 However, this enhanced filtration operating strategy is not how the terminal was originally designed to operate and is highly dependent both on stable inter-terminal operations (both NGT and wider upstream process operating conditions at Shell / Perenco) and equipment availability / reliability; with a myriad of differing possible combinations of process interruptions / plant availability issues preventing such double filtering from being achievable, hence the ongoing present risk currently lying with NGT.
- 4.16 Such current conditions also place a high and sustained operating, as well as health, safety and environmental burden on ongoing terminal operations. The incomer filtration equipment used to double-filter currently requires filter changes approximately every two months. Such operations result in the venting of large quantities of natural gas as individual filter streams alone cannot be safely isolated, leading to larger plant isolations.

Additionally, site personnel involved in such operational and maintenance activities have increased health risks associated with more prolonged exposure to specific breaking containment hazards including but not limited to potential exposure to pyrophoric dust, naturally occurring radioactive material (NORM), and benzene, toluene & xylenes (BTEX).

Recommendation

- 4.17 We submitted a EJP in January 2023 Asset Health Reopener window, which included our needs case and options analysis. A further EJP has been included with our June 2023 Asset Health Reopener package to request funding for the preferred option presented within this paper. For further detail please read our Bacton Filtration EJP.
- 4.18 It is recommended that investment commences to enhance the incomer filtration, installing additional filters into the spaces available within the existing incomer filter banks. In the interim this provides the maximum amount of resilience to filter solids (dust) from the gas flow. This has commenced spend at risk.
- 4.19 It is also recommended that additional filtration be installed at the terminal to filter gas from our feeder connections at the site. Installation of feeder filtration will ensure Bacton Terminal can manage both high export flows while reducing the risk to upstream UKCS Terminal supplies by eliminating the need to double filter gas via the ring main. This should also provide a resilience to security of supply, reduce the amount of filter maintenance activities, reduce outages and gas inventory venting.
- 4.20 The proposals within our Bacton Filtration Engineering Justification Paper (EJP) includes:
- Installation of additional filters on the incomer filter banks and the procurement of spare filter cartridges.
 - Installation of new filter banks on two feeders (Feeder 2 & 4) connecting into the Terminal.
- 4.21 We propose to install filtration on Feeders 2 & 4 as these are used along with Feeder 27 for bulk transmission of gas from the NTS into Bacton Terminal for Interconnector exports. No dust or debris material has been identified within Feeder 27 and no issues raised from the customer who preferentially (due to closeness of connection to Feeder 27) receives most of the gas transported through this feeder, so this option has presently been discounted in our assessment.

Phase 1 – Medium Term

4.22 Additional investment areas identified within the medium-term section are currently being explored and developed. The investment strategy shall be updated when these scopes have progressed and matured.

Overpressure Safety Protection (June 23)

4.23 The incomer pipelines from Shell and Perenco are protected against over-pressurisation by motorised valves which operate should [REDACTED].

4.24 Shell Incomers S1, S2 and S3 have a Safety Integrity Level (SIL) of [REDACTED]; S4 and Perenco incomers, A1 & A2, have a SIL rating of [REDACTED]. All these systems are regularly safety tested. A High-Integrity Pressure Protection System (HIPPS) is installed at the Interconnector Terminal to protect pipework from excessive overpressures, caused during different modes of operations. [REDACTED]
[REDACTED]
[REDACTED]

4.25 A detailed assessment of the overpressure protection on Perenco A1 and A2 Incomers and the Shell SEAL (S4) incomer has concluded that the risk associated with overpressure is considered intolerable without further mitigation, therefore this project seeks to provide sufficient risk reduction and demonstrate the risk is ALARP.

4.26 The Health and Safety Executive (HSE) have issued an Action Legal notice and the work must be carried out as soon as possible, thus has commenced spend at risk.

4.27 The objective of the investment is to mitigate the risk of overpressure to Bacton Terminal to an acceptable level of risk. NGT have undertaken several studies to review the current overprotection arrangements. The purpose of these works is to undertake the recommendations made in the overprotection studies and mitigate the risk to the Terminal to an acceptable level.

Recommendation

4.28 As part of agreeing the action plan with the HSE, commercial and asset options were considered. The possibility of using upstream (Perenco & Shell) parties' HIPPS was explored as both Sub-Terminals have overpressure protection systems on gas supplies into our Bacton Terminal, however this was not deemed acceptable to the HSE due to us not having direct control or ability to maintain or audit performance.

4.29 Our preferred option, which has been progressed was to improve the Overpressure protection system to ensure these met Safety Integrity Level (SIL) [REDACTED].

4.30 Given the timeframes associated with the HSE Action Legal Notice, the project has progressed at risk. Funding has been requested within our Overpressure Protection EJP submitted in the Asset Health June 23 Reopener window.

[Redacted]

4.31 [Redacted]

4.32 [Redacted]

4.33 [Redacted]

Cathodic Protection (Jan 24)

- 4.34 The Bacton Terminal site has circa 9km of buried pipework which is protected from corrosion through external coating systems and an applied Cathodic Protection (CP) system. The system has been operational since the terminal commissioning.
- 4.35 Previous investigations through Closed Interval Protection Surveys identified [REDACTED] and [REDACTED]. More recent CP surveys completed as part of the Future Operating Strategy FEED development identified that out of the [REDACTED] of Terminal pipeline surveyed, [REDACTED] was found to be below the acceptance criteria for CP Systems as stated in Standard T/PM/ECP/2. This equates to a total of [REDACTED] unacceptable defects across the Terminal.
- 4.36 Options within the Future Operating Strategy FEED (Asset Health & New Terminal Options) necessitate the retention of several below ground assets within the existing site requiring an operational CP system.
- 4.37 Baseline funding was awarded as part of the Plant & Equipment investment theme for the first three years of RIIO-T2, for CP Investigation and Rectification (£1.28m), however based on these results we believe the required intervention will exceed this funding.
- 4.38 We are proposing to use the CP Investigation and Rectification funding to progress the development of this works scope, and to utilise the January 2024 Asset Health Reopener Window to seek further funding for this scope should this be necessary.

Electrical (Jan 24)

- 4.39 A number of electrical systems at the site are the original systems installed when the site was commissioned in 1968. They have been operating well in excess of their design life, with the existing standby generator also now both vastly oversized for the electrical load required and experiencing a range..
- 4.40 There are several defects on the Uninterruptable Power Supplies (UPS) system, which itself is operating beyond its design life. There is also a single cable and distribution board that supplies the UPS, therefore a single point of failure. A range of investments were explored on the electrical systems at the site in RIIO-T1 but deferred due to the FOS option uncertainty.
- 4.41 We are proposing to use funding provided for Future Operating Strategy FEED development to progress the development of this works scope.
- 4.42 Through the development of the FEED scope we are exploring the need to accelerate any investments on our Electrical systems, utilising January 24 Asset Health reopener window, or whether to include any investment as part of our FOS submission.

No Regrets Valves (Jan 24)

- 4.43 Through the progression of our FEED Feasibility study a range of valves at the Bacton terminal were found to have inadequate seal affecting the operation of the site.
- 4.44 [REDACTED] actuated valves situated above and below ground were identified for replacement. It has been approximated that work is planned to progress across a [REDACTED] programme, with long lead procurement proposed to progress in RIIO-T2, due to the current lead time for valves [REDACTED] driven by material availability.
- 4.45 We are proposing to use funding provided for Future Operating Strategy FEED development to progress the development of this works scope.
- 4.46 Through the development of the FEED scope we are exploring the need to accelerate any investments on our valves, especially given the [REDACTED] lead time for valve materials. We are assessing whether to utilise the January 24 Asset Health reopener window, or whether to include any investment as part of our FOS submission.

Fire Water Ring Main (Jan 24)

- 4.47 Investment on the Fire Water Ring Main was identified as part of the development of our RIIO-T2 price control submission. In recent years the current firewater ring main has a history of fracturing and releasing quantities of water and affecting the Fire Water Ring Main systems readiness to be available in the event of an emergency
- 4.48 The Fire Water Ring Main system consists of interconnected buried cast iron pipework, with spurs where required. The Ring main is permanently pressurised by a series of pumps, to supply the requirements of both the NGT and Interconnector (IUK) sites
- 4.49 This scope of work is to cover the renewal and rationalisation of the existing Fire Water Ring Main and making good the existing Fire Water Tank which has area of superficial corrosion (re-coating). New Fire Water Ring Main to be installed, removal of water supplies to the Interconnector (IUK), subject to an IUK FEED study to modernise their fire protection system, decommission and removal of old Fire Water Ring Main where required (subject to suspected CP interference). Where possible we propose the pipe to be abandoned and filled to reduce the risks associated with breaking ground.
- 4.50 FEED studies are currently progressing with DNV to shape the scope of works that are required to be undertaken on this system,
- 4.51 Baseline funding was awarded as part of the Cab Infrastructure & Fire Suppression System investment theme for the first three years of RIIO-T2, for Fire Water Ring Main replacement

(£1.53m), however there is the potential for further funding to be sought to progress the recommended scope.

4.52 If this additional funding is required we are proposing to utilise the January 24 Asset Health reopener window to request the difference between the allowances awarded and the cost of investment.

Phase 2 – Long Term

4.53 Phase 2 of the Investment Strategy has a range of strategic outcomes and shall be iterated through and in parallel to the FOS development. This element of the strategy shall iterate through the emerging clarity of options as FEED optioneering progresses but should support the utilisation of Bacton as a strategic entry/exit point on the network now and into the future.

4.54 These include:

1. Managing longer term asset and operational risk at the site
2. Supporting the development of the FOS, through a holistic understanding of Terminal risks.

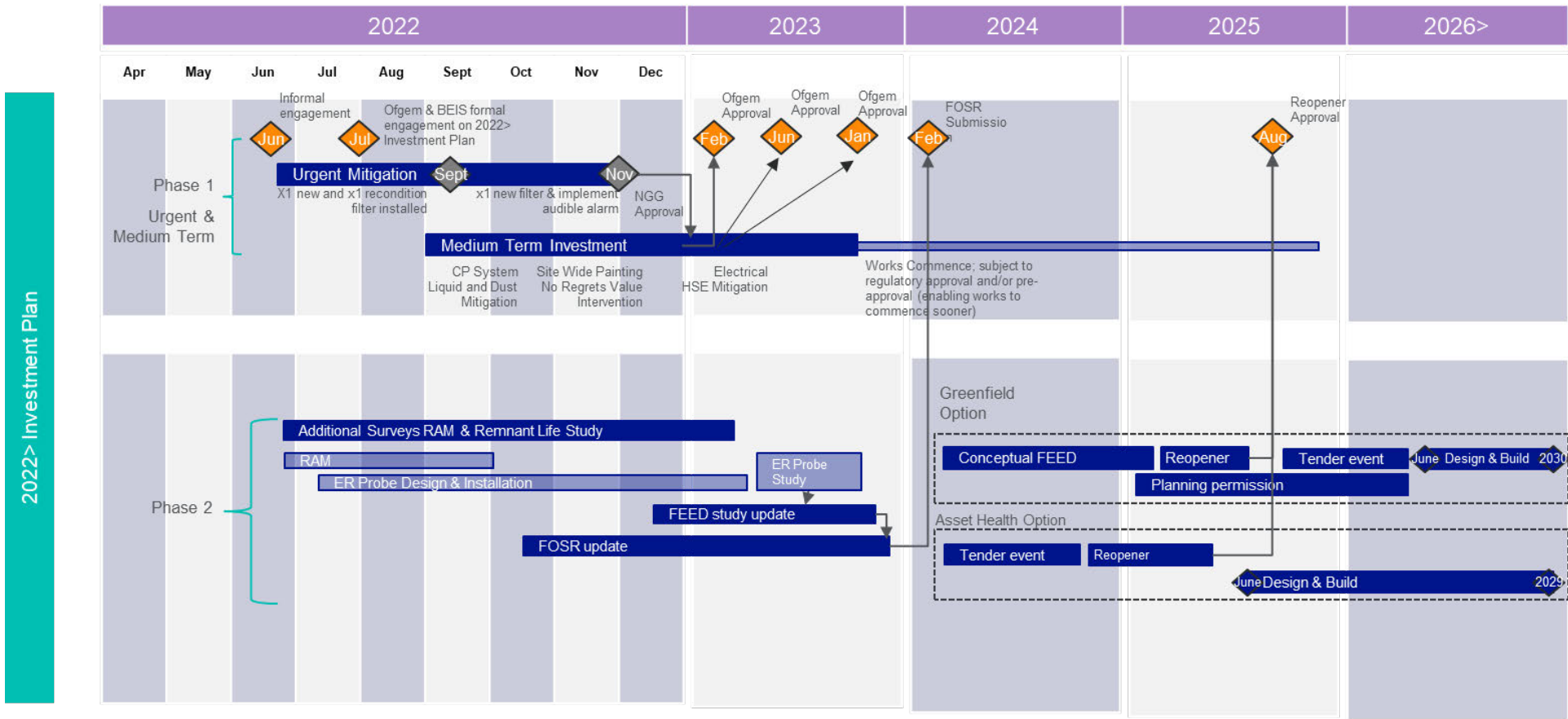
4.55 There are a range of long-term Hydrogen opportunities at the site. Phase 2 shall be cognisant of these opportunities and support the transition should they materialise at site.

5. Recommendation and Timeline

5.1 Based upon the development to date the development timelines are shown on Figure 5. This reflects both Phase 1 and Phase 2 of our investment strategy.

5.2 As investments are in the early stages of development, timelines are subject to change. Our Investment Strategy shall enable us to pivot upon the receipt of fresh information to ensure we are optimising our investment plans and ensuring value for money for consumers.

Figure 4 Recommended Strategy & Timelines



6. RIIO-T2 Investment Themes Overview

Bacton Future Operating Strategy

- 6.1 This investment has £10.5m (18/19 prices) of baseline funding for FEED. It is a Price Control Deliverable, subject to true-up. The remainder of any funding will be subject to an Uncertainty Mechanism.
- 6.2 This Uncertainty Mechanism will have two touchpoints within Gas Network Development Process (GNDP), at the end of Stage 4.2 (February 2024) ahead of Conceptual FEED or Tender events and at the end of Stage 4.3 (August 2025). This will select the preferred Terminal redevelopment option and release funding to implement the solution.

Asset Health

- 6.3 Baseline funding has been awarded in the RIIO-T2 business plan for least regrets investments at the site. These included investments within the following Asset Health themes; Cabs – Fire Suppression Systems for our Fire Water Ring Main investment, Plant & Equipment, Structural Integrity (Civils), Security and Fencing, Access and Buildings
- 6.4 There is an Uncertainty Mechanism for Asset Health (Cabs, Plant and Equipment) with submission windows in January 2023, June 2023 & January 2024. This is expected to release further funding for these themes in RIIO-T2 in line with accelerated and medium-term investment areas within Phase 1 of our strategy.

Redundant Assets

- 6.5 Baseline funding was awarded in the RIIO-T2 business plan to demolish a number of redundant assets that had been identified at the terminal.
- 6.6 The scope of works included:
 - Decommissioning of ENI incomer assets following the disconnection of this customer during RIIO-T1
 - Decommissioning of redundant methanol tanks and odourisation equipment.
 - Decommissioning of several preheating boiler packages no longer required

Physical Security

- 6.7 Baseline funding was awarded in the RIIO-T2 business plan to undertake Asset Health investments on the Enhanced Physical Security solution, installed during TPCR4.

6.8

[Redacted]

6.9 The delivery of this investment is due to commence in July/August 2023

[Redacted]

6.10

[Redacted]

7. Appendix 1 – Approval

7.1 The Bacton Investment Strategy was approved by the National Gas Transmission Gas Governance group GTIC on 12th September 2022.