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North West Coast Connections – Consultation on the project's Initial Needs Case and suitability for tendering

Consultation

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Overview:

In this document we have set out our views on National Grid's proposed North West Coast Connections (NWCC) project, in respect of which National Grid submitted an Initial Needs Case in May 2016. The project would connect a proposed new nuclear power station in Cumbria to the main transmission network in GB.

In this document we have set out our views on two parallel assessment processes we have undertaken. The first is our assessment of the Initial Needs Case under our Strategic Wider Works framework – a mechanism we developed for the RIIO-T1 price control to manage large and uncertain projects at the time of the price control settlement. The second is our assessment of the project for its suitability for competitive tendering under our Competitively Appointed Transmission Owner (CATO) framework.

This document is aimed at parties interested in our views on the first project we have assessed under both of these frameworks, including potential bidders, incumbent network operators, interested consumer groups, as well as other relevant stakeholders.

Context

GB's onshore electricity transmission network is currently planned, constructed, owned and operated by three transmission owners (TOs): National Grid Electricity Transmission (NGET) in England and Wales, SP Transmission in the south of Scotland, and Scottish Hydro Electric Transmission in the north of Scotland. We regulate these TOs through the RIIO (Revenue = Incentives + Innovation + Outputs) price control framework. For offshore transmission, we appoint TOs using competitive tenders.

The incumbent onshore TOs are currently regulated under the RIIO-T1 price control, which runs for 8 years until 2021. Under this price control, we developed a mechanism for managing the assessment of large and uncertain projects called 'Strategic Wider Works' (SWW). The incumbent TOs are funded to complete pre-construction works, and then subsequently follow up with applications for construction funding when the need and costs for the project become more certain. As part of our decision on the RIIO-T1 price control, we set out that projects brought to us under the SWW regime could be subject to competitive tendering.

We previously undertook the Integrated Transmission Planning and Regulation (ITPR) project, which reviewed the arrangements for planning and delivering the onshore, offshore and cross-border electricity transmission networks in GB. Through this project, we decided to increase the role of competitive tendering where it can bring value to consumers. In particular, we decided to extend the use of competitive tendering to onshore transmission assets that are new, separable and high value.

Following the ITPR project, we set up our Extending Competition in Transmission (ECIT) project to implement competition in onshore electricity transmission. We published a consultation on our proposed arrangements for competitive onshore tendering in October 2015. In May 2016 we consulted on our process for identifying projects, pre-tender arrangements, and our proposals for conflict mitigation measures. In November 2016 we published our decisions on those policies consulted on in May 2016. We are continuing to work with Government to develop the framework to support this regime. As set out in our November decision, we consider that a legislative underpinning would provide strong support and clarity for competitive tendering.

Associated documents

Extending competition in electricity transmission: Decision on criteria, pre-tender and conflict mitigation arrangements, November 2016
https://www.ofgem.gov.uk/publications-and-updates/extending-competition-electricity-transmission-decision-criteria-pre-tender-and-conflict-mitigation-arrangements

Extending competition in electricity transmission: tender models and market offering, August 2016
https://www.ofgem.gov.uk/publications-and-updates/extending-competition-electricity-transmission-tender-models-and-market-offering

Extending competition in electricity transmission: criteria, pre-tender and conflict mitigation arrangements, May 2016
https://www.ofgem.gov.uk/publications-and-updates/extending-competition-electricity-transmission-criteria-pre-tender-and-conflict-mitigation-arrangements

Extending competition in electricity transmission: arrangements to introduce onshore tenders, October 2015
https://www.ofgem.gov.uk/publications-and-updates/extending-competition-electricity-transmission-proposed-arrangements-introduce-onshore-tenders

Criteria for onshore transmission competitive tendering, May 2015
https://www.ofgem.gov.uk/publications-and-updates/criteria-onshore-transmission-competitive-tendering

Integrated Transmission Planning and Regulation project: Final Conclusions, March 2015
https://www.ofgem.gov.uk/publications-and-updates/integrated-transmission-planning-and-regulation-itpr-project-final-conclusions

Strategic Wider Works Guidance, October 2013
https://www.ofgem.gov.uk/publications-and-updates/guidance-strategic-wider-works-arrangements-electricity-transmission-price-control-riio-t1-0

Contents

Executive Summary

In May 2016 we received an Initial Needs Case submission from National Grid Electricity Transmission (NGET), associated with its proposed 'North West Coast Connections' (NWCC) project – a c.£2.5bn electricity transmission project to connect a new nuclear power station in Cumbria. Since the submission, we have been assessing the proposed project under our Strategic Wider Works (SWW) framework and assessing its suitability for tendering under the Competitively Appointed Transmission Owner (CATO) framework that we are currently developing.

This consultation is intended to provide clarity for NGET and wider stakeholders on our view on the progress of the project to-date and its suitability for tendering, as well as to give interested parties the opportunity to respond.

We received consultancy support from TNEI Ltd/Pöyry Ltd on both the SWW and CATO elements, and have published their report alongside this consultation.

Strategic Wider Works assessment

We consider that, subject to the generator ('NuGen') project going ahead, there is a clear consumer benefit in the NWCC project progressing.

Overall, we consider that a sensible and logical process has been followed to narrow down NGET's proposed design. However, we consider that the decision between NGET's favoured use of a tunnel under Morecambe Bay and an alternative approach of using subsea cables around the bay is relatively finely balanced. We have concerns that significant changes in the cost of the tunnel, or additional work identified through the planning process could indicate in the future that the subsea cable option could be better value for consumers.

For this reason, if costs of the preferred option escalate significantly due to factors that NGET should have reasonably foreseen at this stage, we reserve the right as part of our Final Needs Case assessment to revisit the justification for its selected option. As part of our Project Assessment we may then disallow any inefficient costs that could have been avoided through selection of an alternative option.

Assessment of suitability for tendering

We have assessed the suitability of the project for tendering against the draft new, separable, and high value criteria for competition. We have also considered other relevant factors, in particular deliverability and transferability. In doing so, we have considered both the option of tendering the project as a whole (in the form as currently proposed by NGET) and in part.

Our view is that the project as a whole meets the criteria for competition. However, there may be challenges around deliverability of the project if constructed as a whole by a CATO, based on current assumptions around design and timing of the project, and timing for when we could first appoint a CATO. This is driven primarily by the need for 'site supplies' for NuGen's site (the 'Moorside' site) several years in advance of final project delivery, and potentially also by procurement of a tunnel under Morecambe Bay. We have identified no issues in respect of the transferability of the project's preliminary works from NGET to a successful CATO bidder.

We have also assessed the suitability for tendering of three distinct sections of NGET's proposed design – a north route, a south route, and a tunnel. Our view is that each of these sections individually meets the criteria for competition. Given the current assumptions around timing, the north and tunnel sections may be challenging for a CATO to deliver on time. Our view is that there are no current concerns around a CATO being able to deliver the south route in time.

Our assessment is based on the current situation of the project, and we have identified some key variables we will continue to monitor. In particular, any changes to NuGen's programme and changes to the timetable of the project's Development Consent Order (DCO). It is also dependent on the necessary regulatory framework being in place.

The project is expected to involve significant interactions with Electricity North West Limited's (ENWL) distribution network. While this introduces some additional interfaces that would need to be managed, our view is that this interaction in and of itself is not a barrier to competition.

Next Steps

We welcome responses to our consultation, both generally, and in particular on the specific questions we have included in Chapters 2 and 3. If you would like to respond to this document, please send your response to: NTIMailbox@ofgem.gov.uk. The deadline for response is 24 February 2017.

We are now consulting on our views as set out in this document. We will also continue to monitor progress of the project, including any changes to project need or milestones.

We expect to publish our views on the responses to this consultation in late spring 2017. In particular, we expect to publish a statement regarding whether or not we propose to tender the project, in whole or in part.

1. Introduction

Chapter Summary

This chapter sets out the background to NGET's project, the regulatory framework which we use to manage Strategic Wider Works projects, and our approach to assessing these projects for tendering. It also sets out our next steps for this process.

Context

1.1. This document sets out our initial view on the future regulatory treatment of a proposed electricity transmission project to connect a new nuclear power station in Cumbria. The project is referred to as the 'North West Coast Connections' (NWCC) project. At an estimated cost of £2.5bn,[1] the NWCC project is likely to be the largest onshore electricity transmission investment project in the recent history of GB.

1.2. The consultation sets out our initial views on:

- Whether we think there is a technical need for the project.
- How NGET has narrowed down the option it has taken forward to its planning consultation.
- Whether the project, or sections of it, are suitable for competitive tender.[2]

1.3. This chapter provides a high-level overview of the project, the existing arrangements for how this project would be assessed under the current electricity transmission price control, and our approach to assessing the suitability of the project for tendering.

[1] Cost figures in this document are presented in 2015/16 prices with P50 risk funding applied, unless stated otherwise. NGET has undertaken analysis of the cost impact of potential risk items to calculate both P50 and P80 cost estimates. The probability of the final cost figure being less than the P50 value is 50%, whilst the probability of it being less than the P80 figure is 80%. NGET's planning consultations reference costs in P80. At P80, the total cost of the project is estimated at £2.8bn.

[2] Throughout this document, we refer to the suitability of 'projects' and 'assets' for 'competitive tendering', or for 'onshore competition'. It should be noted that the subject of a competitive tender would in fact be the 'relevant licence' to construct and operate assets which satisfy the new, separable and high value criteria.

Overview of the NWCC project

1.4. NuGeneration Ltd (NuGen), a joint venture between Toshiba and ENGIE aims to develop a new nuclear power station of up to 3.8GW gross capacity on the 'Moorside' site on the west Cumbrian coast to the north of the Lake District National Park (LDNP).

1.5. National Grid Electricity Transmission (NGET), as the monopoly onshore transmission owner, has designed the NWCC project to connect the Moorside site to the national electricity transmission system. NGET opened its consultation as part of the planning process on 28 October 2016.[3] It anticipates making a formal application for development consent in late spring 2017.

1.6. NGET's preferred connection option from NuGen's site comprises a double circuit going north to Harker substation and a double circuit going south (through the LDNP) to Middleton substation. This is because it expects the consumer benefits of routeing a double circuit to Middleton will more than offset the additional costs of mitigating a route through the LDNP. NGET's planning consultation proposes that the whole section through the LDNP should be undergrounded. This is due to the adverse impact that overhead lines would have on the LDNP.

1.7. To the south of the LDNP, NGET plans to construct a cable tunnel underneath Morecambe Bay through to Middleton substation. It has selected this option because it estimates it will be lower cost than an alternative approach of using a subsea cable, and less of a planning risk than an alternative onshore route.

Regulatory framework and our role

1.8. As an economic regulator, we have a duty to ensure that the revenues of natural monopolies, such as onshore and offshore transmission owners (TOs and OFTOs) are set to allow efficient delivery of the various obligations they face.

1.9. TO revenues are set through price controls. Price controls set the amount of money that the TO can recover from consumers for the delivery of its required outputs and other obligations. The current price control, RIIO-T1, is the framework that sets NGET's revenue for the period covering 1 April 2013 – 31 March 2021.

[3] National Grid is consulting on its proposals as required by sections 42 and 47 of the Planning Act 2008: http://www.northwestcoastconnections.com/bgo/consultation.asp

Strategic Wider Works background

1.10. As part of RIIO-T1 in 2013 we created the 'Strategic Wider Works (SWW) mechanism'. This acts as a funding mechanism to allow TOs to deliver additional large electricity transmission projects that were not accounted for in the original RIIO settlement due to uncertainties around the need, timing, design and overall cost of these projects at the time RIIO-T1 was set.

1.11. Our SWW assessment process is made up of three main phases:

1) **Initial Needs Case** – Our opportunity to identify, at an early stage, any concerns we have with how the TO has selected the investment option it intends to seek planning approval for.

2) **Final Needs Case** – Our process for taking a final decision on whether there is a confirmed need for the transmission project through robust cost-benefit analysis (CBA). This takes place once there is greater certainty that any generation driving the project will go ahead.

3) **Project Assessment** – Our assessment of the detailed cost estimates and delivery plan for the project in order to set allowed expenditure and required deliverables for the transmission project.

1.12. Our Initial Needs Case is a new stage in our assessment of SWW projects.[4] It provides an opportunity for us to consider whether there is likely to be a need for the proposed project, and how the technical design has been narrowed down. Its timing allows us to give an early view on the proposals being taken forward for public consultation through the planning process. Projects at this stage of development will still be subject to potential change so the Initial Needs Case is not a decision, on need or on funding.

The TO's role

1.13. We do not design new transmission projects, plan how they should be built, or decide what routes they should take. This is the responsibility of the developing TO and the relevant planning authorities. For this reason we do not look at the detailed location of individual lines and pylons or take a view on what additional mitigation measures might be required. The Initial Needs Case focuses on the key early strategic choices between options that will impact on the future cost of the project.

[4] The Initial Needs Case is not currently reflected in the existing SWW guidance document, but TOs have been working to this process ahead of its being set out in guidance. The process still falls under the governance of special condition 6I of NGET's transmission licence.

Onshore competition background

1.14. As part of our Integrated Transmission Planning and Regulation (ITPR) Final Conclusions,[5] we decided to increase the role of competitive tendering where it can bring value to consumers. In particular we decided to extend the use of competitive tendering to onshore transmission assets that are new, separable and high value. Since this decision, we have been further developing the framework to facilitate onshore competition.

1.15. In October 2015[6] we published a consultation on the overarching arrangements for the competitive tender of onshore transmission assets. We refined these proposals in May[7] and August 2016.[8]

1.16. We published a key decision document in November 2016[9] (our 'November decision') which sets out the principles and processes by which we expect to decide whether or not to tender projects identified through the SWW process during the RIIO-T1 price control period. This document should be read in conjunction with the November decision for full details of our final policy positions and the rationale for having reached them.

1.17. In particular, the November decision sets out further detail regarding the new, separable and high value criteria against which we are assessing the suitability of this project for tendering.[10] Other factors we will take into account when considering whether or not to commence a tender for this project include the transferability of preliminary works and the impact of tendering on a project's deliverability. As well as assessing the project as a whole, we are also considering whether specific parts of the project are suitable for tendering, taking into account the benefits of doing so.

1.18. This assessment has been undertaken on the basis of the project scope and programme submitted to us by NGET as part of the Initial Needs Case process. We will need to consider any significant changes to either design scope or expected timing of the project as part of our decision-making process. We will also

[5] https://www.ofgem.gov.uk/publications-and-updates/integrated-transmission-planning-and-regulation-itpr-project-final-conclusions
[6] https://www.ofgem.gov.uk/publications-and-updates/extending-competition-electricity-transmission-proposed-arrangements-introduce-onshore-tenders
[7] https://www.ofgem.gov.uk/publications-and-updates/extending-competition-electricity-transmission-criteria-pre-tender-and-conflict-mitigation-arrangements
[8] https://www.ofgem.gov.uk/publications-and-updates/extending-competition-electricity-transmission-tender-models-and-market-offering
[9] https://www.ofgem.gov.uk/publications-and-updates/extending-competition-electricity-transmission-decision-criteria-pre-tender-and-conflict-mitigation-arrangements
[10] Our current expectation is that the criteria will be defined in secondary legislation made by the Secretary of State, which will be subject to a process of Parliamentary scrutiny. As such, until that process is complete, the criteria remain draft.

need to consider the assumptions we are using for timing in relation to when we could first appoint a Competitively Appointed Transmission Owner (CATO).

1.19. Since our decision to introduce competition into onshore transmission we have published Impact Assessments (IAs), with the most recent being an updated IA in May 2016. This demonstrated the general benefits of tendering onshore transmission projects which meet the criteria. In this document we are seeking views on our assessment of the NWCC project against the criteria and other factors. We will be undertaking a further assessment on the specific benefits of tendering the NWCC project, to be published alongside the statement regarding our intention to tender which we expect to publish in late spring 2017.

Consultancy support for our assessment

1.20. We appointed TNEI Services Ltd and Pöyry Management Consulting (UK) Ltd[11] to provide independent analysis and expertise to support our assessment process, both in relation to the Initial Needs Case and our assessment of the project for tendering. The final report provided by TNEI has been published alongside this document. This public version has been redacted for commercial considerations associated with NGET's ongoing delivery programme.

Next steps

1.21. We are keen to engage with stakeholders on our analysis, as set out in this document. If helpful, we would be happy to meet with stakeholders to further discuss our views, during the consultation period.

1.22. We will also continue to monitor progress of the project, including any changes to project need or milestones.

1.23. We expect to publish our views on the matters set out in this consultation in late spring 2017. In particular, we will publish a statement regarding whether or not we intend to tender the project, in whole or in part. If we intend to tender the whole of the project, it will proceed along the tender pathway set out in Figure 2 of the November decision. If we intend to tender part of the project, the part to be tendered will proceed along the tender pathway, and the remainder will proceed along the SWW pathway. The November decision and concurrent consultation document entitled 'Consultation on licence changes to support electricity transmission competition during RIIO-T1'[12] set out further details regarding the process and proposed obligations of the TO in each case.

[11] Referred to as 'TNEI' for the purposes of this document.
[12] https://www.ofgem.gov.uk/publications-and-updates/consultation-licence-changes-support-

1.24. Where any, or all, sections of the project are not to be tendered and instead remain within the SWW pathway, we will confirm the issues we intend to focus on within the Final Needs Case assessment and the expected timing for this assessment.

electricity-transmission-competition-during-riio-t1

2. Strategic Wider Works assessment

Chapter Summary

This chapter sets out the key design decisions NGET has made to date on the NWCC project. It also sets out our consideration of this justification and explains our initial findings.

Question box

Question 1: Do you agree that there is a technical need for the project if Nugen's project goes ahead?

Question 2: Do you agree that connecting the Moorside site using four 400kV circuits is appropriate and compliant with SQSS requirements?

Question 3: Do you agree with our initial conclusions?

Question 4: Are there any additional factors that we should consider as part of our Initial Needs Case assessment?

2.1. In May 2016, National Grid Electricity Transmission (NGET) provided us with its Initial Needs Case submission under the Strategic Wider Works (SWW) arrangements detailed in the previous chapter. This chapter summarises our consideration of NGET's technical proposals and high-level routeing decisions.

2.2. Any part of the NWCC project that remains within the SWW framework will be assessed through a Final Needs Case[13] and Project Assessment when the project has sufficiently matured in order to determine the efficient cost allowances that NGET is granted for the project as per the current SWW Guidance.[14] As set out in the Next Steps section of Chapter 1, if the project is considered suitable for competition, the need for the project will be confirmed at the Final Tender Checkpoint.

2.3. NGET's favoured option involves a 400kV double circuit heading north to Harker substation along the route corridor of the existing 132kV distribution network. To the south, NGET's favoured option involves a 400kV double circuit which will comprise 38 km of overhead lines, undergrounding through the 23km

[13] Within the existing SWW guidance, the Final Needs Case is referred to as the Needs Case
[14] https://www.ofgem.gov.uk/publications-and-updates/guidance-strategic-wider-works-arrangements-electricity-transmission-price-control-riio-t1-0

length of the route through the Lake District National Park (LDNP) and a 22km tunnel under Morecambe Bay.

2.4. NGET's detailed planning proposals are currently subject to consultation as part of the planning process.[15]

Figure 1: Indicative representation of NGET's preferred option

[15] National Grid is consulting on its proposals as required by sections 42 and 47 of the Planning Act 2008: http://www.northwestcoastconnections.com/bgo/consultation.asp

2.5. Our review of NGET's proposals to date has focused on how it has narrowed down its strategic options, to ensure that an efficient approach is being taken forward through the planning process. We do not play a formal role within the planning process. We have therefore not looked at the exact location of individual pylons or substations, but focused on the key design decisions that will impact on the cost of the project to consumers.

2.6. This chapter sets out NGET's key design decisions for the NWCC project and its justification for these decisions. It also sets out our consideration of this justification and explains our initial findings.

Technical configuration

NGET approach and justification

2.7. NGET has determined that four 400kV circuits, each with a winter post fault capability of 2,550 MVA, would be required in order to safely and securely connect the Moorside site through the NWCC project.[16] The Moorside site, where NuGen plans to commission its nuclear power station, is in an area of Cumbria where there is no existing transmission infrastructure. This means that new circuits will need to be built to connect the site with the main transmission network.

2.8. The National Electricity Transmission System Security and Quality of Supply Standards (NETS SQSS) set the standards by which NGET is required to plan and operate its electricity transmission network. These include the need to maintain adequate system capacity and stability under specified events such as two circuits experiencing outages at the same time. NGET has opted for the use of four circuits with the chosen voltage level and capacity rating to comply with the SQSS requirements.

2.9. NGET explains that the use of two 400kV circuits would violate the SQSS infrequent infeed loss risk criterion in the event that both circuits failed. If three circuits were used, the loss of two of these circuits would create an unacceptable overload on the third circuit unless a very expensive commercial intertrip was permanently armed. NGET's view, therefore, is that the use of three circuits is likely to be significantly more expensive to consumers over the project's lifetime than the use of two double circuits.

2.10. It is technically feasible that the Moorside site could be safely connected by using a large number of lower voltage circuits. However, given the difficulty of routeing additional lines through the local area, and the likely additional costs of mitigation, NGET considers that it will not be an appropriate option.

[16] NGET has assumed that these four circuits will consist of two double circuits. A double circuit is where two circuits are held by one set of supporting pylons.

Our consideration and initial findings

2.11. We have considered NGET's explanation for the choice of the new circuits and agree that the use of four 400kV circuits, each with a winter post fault capability of 2,550 MVA, is an appropriate design approach to achieve compliance with the SQSS requirements. Having confirmed that four circuits is an appropriate choice to safely accommodate a nuclear power station of the size of NuGen's proposed development at Moorside, the focus of our assessment turned to the question of the optimum place for these circuits to connect into.

Where these circuits should connect into

NGET approach and justification

2.12. NGET has chosen to route one 400kV double circuit north from Moorside to Harker substation and one 400kV double circuit south from Moorside to Middleton. It expects that this approach will deliver additional system capability compared to routeing all circuits to the north, or all circuits to the south. It has selected Harker and Middleton as the closest substation locations that avoid additional routeing through the LDNP.

2.13. NGET has used its 2015 Future Energy Scenarios[17] (FES) to represent four feasible levels of generation that the NWCC project could need to accommodate over its operating life. Comparing how well each of the NGET's options accommodates the four generation scenarios provides a direct comparison of forecast constraint costs across the considered options. Cost Benefit Analysis (CBA) has been used to compare the cost of each option against its beneficial reduction in forecast constraint costs across the project's lifetime. NGET has used this analysis to justify its view that the capability benefits of routeing a double circuit south will offset the associated additional cost. A table showing the costs and relative CBA rankings can be found in Appendix 1.

Our consideration and initial findings

2.14. Having reviewed the underlying cost estimates of the options compared and NGET's CBA methodology, as well as the generation assumptions used within the FES for this project, we are comfortable with NGET's justification for discounting the option of routeing all four circuits to Harker. We consider that the generation assumptions underpinning the four FES for this project have been based on sensible consideration of how local generation levels could progress in the future. These generation scenarios have then been fed into a robust CBA methodology. We have also carried out a high-level assessment of the cost

[17] The 2016 version of the FES was not available at the time NGET undertook its modelling for its NWCC Initial Needs Case submission.

elements that differ between options, and are comfortable that specific cost assumptions are not skewing the result of the CBA.

Mitigation of the projects impact on the LDNP

2.15. Given the location of the Moorside site, the appropriate approach to mitigating the project's impact on the LDNP was the next key area of focus. The project's impact on the LDNP and its setting will be a key consideration within any final planning consent for the project.

2.16. Nationally Significant Infrastructure Projects such as NWCC require the TO developing the project to engage with stakeholders and demonstrate to the Planning Inspectorate how it has balanced its various obligations. Following the Planning Inspectorate's review, the decision whether to approve a Development Consent Order (DCO) is ultimately taken by the Secretary of State.

Undergrounding of the section through the LDNP

NGET approach and justification

2.17. Early technical work undertaken by NGET determined that, due to the length of cable required, the use of a High Voltage Direct Current (HVDC) offshore cable would be the only way of completely avoiding a route corridor through the LDNP. This would have been an untested technology for the connection of a nuclear power station, which would represent a significant risk to both the network and the connecting generator. This option was also the most expensive option that NGET looked at. Therefore, due to a number of factors, this option was not progressed. The exclusion of this option, and the option of routeing all four circuits north, meant that an impact on the LDNP was unavoidable. Each of the remaining connection options included the same 23km onshore route through the LDNP to the south of Moorside.

2.18. NGET has proposed to underground the full 23km section which goes through the LDNP on the basis that undergrounding less than all 23km would be much harder to justify in terms of impact on the LDNP, and that this would be unlikely to receive planning consent.

Our consideration and initial findings

2.19. Whilst we do not play a formal role in this planning process, we have reviewed the mitigation proposals that NGET has developed for the project. If the NWCC project progresses to a Final Needs Case and Project Assessment, we will need to ensure that consumers are only funding the efficient costs of mitigation work that are justified and could not have reasonably been avoided, or in respect of which evidence exists that the mitigation delivers benefits that consumers are willing to pay for.

2.20. Undergrounding the section of the route within the LDNP adds an estimated £340m to the cost of the project as opposed to if the route was completed using only overhead lines. As such, as part of our considerations we looked at the requirements for undergrounding in a national park and reviewed an NGET analysis of consumer willingness to pay for visual mitigation within the LDNP.

2.21. Within our remit, we have only considered the justification for the mitigation proposed by NGET. Based on the evidence that NGET have provided to date, we consider that NGET's mitigation proposals within its planning consultation represent a reasonable position for it to consult on. However, we recognise that through the consultation there is the potential for changes to NGET's final design and cost estimates. We believe that the planning process, overseen by the Planning Inspectorate and Secretary of State, is the appropriate way of determining whether any amendments to NGET's mitigation proposals are required.

2.22. Where the cost of NGET's preferred option escalates significantly due to additional mitigation requirements that NGET should have reasonably foreseen at this stage, we reserve the right as part of our Final Needs Case assessment to revisit the justification for its selected option. As part of our Project Assessment we may then disallow any inefficient costs that could have been avoided through selection of an alternative option.

Tunnel underneath Morecambe Bay and viable alternatives

NGET approach and justification

2.23. To the south of the LDNP section of its preferred route, NGET proposes to route the circuits through a tunnel under Morecambe Bay.

2.24. The 22km cable tunnel underneath Morecambe Bay is a major cost driver on the project making up roughly £1bn of the total project cost. As the project is still at a relatively early stage of development, the costs of bespoke aspects such as the tunnel included in NGET's Initial Needs Case have been based on reasonably high-level estimates. As such we have focused our assessment on understanding the assumptions underpinning the cost estimate for the tunnel and comparing the resultant cost to viable alternatives.

2.25. In proposing the tunnel, NGET has discounted the following alternatives:

1. Onshore double circuit route through the south-eastern section of the LDNP

2. Offshore subsea AC cables crossing Morecambe Bay along the same routeing as the proposed tunnel

3. Offshore subsea AC cables going around Morecambe Bay and landing on the Heysham peninsula

Our consideration and initial findings

Morecambe Bay tunnel design and cost

2.26. NGET proposes that the tunnel will need to be 22km long with an internal diameter of up to 5m in order to accommodate the required 12 individual cables and allow appropriate safe maintenance access. We are broadly comfortable that reasonable assumptions have been made on the diameter of the tunnel to allow appropriate comparison to the alternative options. However, the final diameter of the tunnel could eventually be reduced as the project progresses.

Onshore double circuit route through the south-eastern section of the LDNP

2.27. For the purposes of its Initial Needs Case, NGET developed estimates of the cost of routeing a double circuit around Morecambe Bay through the southern section of the LDNP broadly following the existing lower voltage distribution line route. Due to the geography and topography of the region and the route's impact on the LDNP (and other environmental designations), NGET has assumed a significant level of mitigation which is reflected in a level of cost that is comparable to its favoured routeing through a tunnel under Morecambe Bay. NGET discounted this option on the basis that it would have a significantly larger impact on the LDNP than the tunnel under Morecambe Bay, without representing a saving to consumers.

2.28. We have reviewed the mitigation approaches included in the costing of this option and are comfortable that appropriate assumptions seem to have been made. On the basis that this option would deliver an increased detrimental impact on the LDNP, without obvious savings to consumers, we are comfortable with NGET's decision to discount this option.

Offshore subsea AC cable across Morecambe Bay along the same routeing as the proposed tunnel

2.29. An obvious alternative to a tunnel underneath Morecambe Bay would be a subsea cable across the seabed of Morecambe Bay following roughly the same route as the tunnel. We have investigated this option with NGET in considerable detail given the significantly lower cost that it would involve.

2.30. NGET's rationale for discounting this option is focused on the likely consenting risk of routeing a 1.3km wide swathe of 18 cables across the environmentally protected floor of the bay for a 22km length. Morecambe Bay has a special environmental protection status due to shifting sands. This causes notable changes in the level of the bay floor which would make it difficult to lay cables in the bay without the use of rock armour to hold the cables in place. The

rock armour would be likely to lead to a build-up of sediment and specifically interfere with the shifting sands designation of the bay. Given that there are alternative approaches (such as its proposed tunnel) that avoid this impact on the special protection of the bay, NGET consider there is a significant risk of this routeing not gaining consent.

2.31. Following analysis of NGET's justification for this position, we see no reason to disagree with NGET's conclusion. We have challenged NGET on whether a larger capacity three-core cable could have limited the detrimental impact on the sea bed. Using three-core cable rather than single core cable would have reduced the number of cables within the swathe across the bay and so may have reduced the consenting risk. Having said this, it would still have a significant impact on the bay's designation. Rock armour would still be required, and so a significant consenting risk would remain for this option.

Offshore subsea AC cables going around Morecambe Bay and landing on the Heysham peninsula

2.32. In late 2014, following the cancellation of a local offshore windfarm, a landing point for an offshore cable on the Heysham peninsula became available. As a result, routeing a subsea cable around Morecambe Bay became a realistic option within the NWCC project.

2.33. Having reviewed the costs of this potential subsea cable option, in 2015 NGET discounted it on the basis that high level cost estimates showed this option to be roughly £300m more expensive than NGET's preferred connection option.

2.34. Based on our own analysis and our consultants' review of NGET's cost assumptions, we have concerns that NGET's subsea cable cost estimate is too high. We consider that the cost difference between NGET's favoured option involving the tunnel and the subsea cable alternative appears relatively finely balanced and sensitive to individual cost assumptions. There is also a risk that the cost of the tunnel could escalate significantly. In response to our concerns, NGET carried out a further desk-top study of the subsea cable option. This work confirmed that the cost difference could be notably smaller than its original £300m estimate, but still suggested that its favoured option is cheaper. We consider that NGET could have carried out a more detailed assessment of the likely cost of this option at an earlier stage in its decision-making process in order to further improve the robustness of its selection.

2.35. Notwithstanding the above, as NGET has already ruled this option out, switching options at this stage would cause delays to the project. Based on NuGen's contracted connection date, any delays are likely to be more costly to consumers than the cost difference between the two options. Whilst the cost estimates of both the subsea cable option and the tunnel are still at an early stage of development, it is difficult to conclude which of them is the more efficient option. It is possible that additional work by NGET could have revealed that the subsea cable option will be more difficult than anticipated, or that the cost of the

tunnel could reduce significantly due to a tunnel diameter of less than 5m being possible.

Summary of findings

2.36. Based on the evidence presented by NGET and our own analysis to date, we are broadly comfortable with NGET's routeing selection. However, if the costs of NGET's preferred option escalate significantly due to factors that NGET should have reasonably foreseen and avoided, we reserve the right to revisit the decisions taken by NGET to reach its preferred connection option. We would do this as part of our Final Needs Case assessment and possibly disallow any inefficient costs that should have been avoided. This will ensure that consumers only pay the efficient costs of delivering the project.

Other considerations

DNO costs

2.37. Since the majority of the route involves the removal of the local 132kV distribution network, cost estimates for construction work that ENWL expects to undertake have been incorporated into the costs of the connection options considered. We have carried out a high-level assessment of these costs and are comfortable that they appear broadly in line with equivalent work that ENWL has undertaken within its RIIO-ED1 settlement.

2.38. If the project progresses to a Final Needs Case, we intend to carry out a more detailed efficiency assessment of the works undertaken. Where appropriate we will also take into account any commercial agreement in place between NGET and ENWL as part of this assessment. Such agreement is likely to cover both the delivery of these works and wider commercial agreement of arrangements around risk mitigation.

Other cost areas

2.39. Our Initial Needs Case assessment of NGET's NWCC project has taken place at an early stage in its development. As such NGET's cost information for certain elements of the project are based on relatively high-level assumptions and indicative benchmarks.

2.40. We have specifically not carried out a detailed assessment of the efficiency of construction support activity cost areas such as project management, consenting costs and risk funding, but have checked that the high-level methodology applied has not skewed NGET's own analysis towards choosing its favoured connection option.

SWW Assessment – Initial conclusions

2.41. It's our initial view that if NuGen commissions Moorside there will be a technical need for the NWCC project and that this would require four 400kV circuits to be constructed in the local area.

2.42. Based on our assessment of NGET's proposals, we are satisfied that NGET followed a sensible and logical process in initially narrowing down its preferred routeing and agree that, using NGET's current cost estimates, it appears to have selected the appropriate option.

2.43. However, the project's design will still be subject to significant uncertainty. It is possible that additional mitigation will be required through the planning process, or that additional costs will be identified as the project matures.

2.44. For this reason, if costs of the preferred option escalate significantly due to factors that NGET should have reasonably foreseen, we reserve the right to revisit the decisions taken by NGET to reach its preferred connection option. We would do this as part of our Final Needs Case assessment and possibly disallow any inefficient costs that should have been avoided.

3. Competition assessment

Chapter Summary

In this chapter we have set out our assessment of the project against the criteria for tendering and against other factors, including deliverability and transferability. Our view is that the project as a whole is *new*, *separable*, and *high value*. We have also considered the potential splitting and re-packaging of the project, and have set out our views on the suitability of distinct sections of the project for tendering.

Question box

Question 5: Do you agree with our view that:
(a) the overall project meets the criteria for tendering?
(b) the potential sections meet the criteria for tendering?

Question 6: What are your views on our deliverability assessment for:
(a) the overall project?
(b) the potential sections?
In particular, considering our analysis of the design, procurement, and construction timelines as submitted by NGET.

Question 7: What are your views on the need for overall coordination of the whole NWCC project if the project were to be split into packages with different delivery parties?

Question 8: If some, or all of NWCC were to be tendered, what, in your view, is the most appropriate allocation of risks across the relevant parties (TO, CATOs, and consumers)? How should these risks best be managed?

Question 9: What are your thoughts on the substation modification and extension works at Harker and Middleton, in the context of efficient CATO delivery, including the options presented in this document?

Introduction

3.1. In this chapter we present our assessment of:

- Whether the project meets the criteria for tendering, both as a whole, and in connection with certain defined sections of the project.
- Deliverability and transferability considerations in respect of each option for tendering the project.

- Project specific points we have considered.

3.2. We are seeking stakeholder input on our views set out in this chapter, to inform the statement which we expect to publish in late spring 2017 regarding whether or not we intend to tender the project (in whole or in part).

Basis of analysis

3.3. We have used NGET's preferred route and indicative project timings for our tendering analysis, as set out in its S42 consultation.

3.4. If there are any changes to the project as currently scoped, for example changes to the route or timing of key milestones, we would factor that into our assessment of the project's suitability for tendering.

Assessment against the criteria for competition

Overview of the criteria

3.5. In Chapter 2 of the November decision, we set out the criteria against which we expect to assess the suitability of projects for tendering.

3.6. The criteria are as follows:

1) New – a completely new transmission asset or a complete replacement of an existing transmission asset.

2) Separable – the boundaries of ownership between the competed assets and other (existing) assets can be clearly delineated.

3) High value – a fixed threshold set at £100m of expected capital expenditure of a project at the point of our initial assessment of whether to tender the project.

3.7. We have said that, for projects in RIIO-T1, we would also consider other factors when deciding to run a tender, including deliverability, transferability, and any other project specific considerations on the overall consumer benefits case. Deliverability focuses on timing, and the potential ability of a CATO to deliver against project milestones.[18] Transferability focuses on whether there are any

[18] We do not focus in this document on CATO capability (ie skills or experience) to deliver as we consider based on our assessment of the project characteristics that there are no significant challenges to appointing a CATO capable of delivering the project.

obstacles to the preliminary works, land agreements, and third party agreements being transferred efficiently to the CATO. In this section we set out our view on these factors.

Criteria assessment

3.8. We set out below our analysis for the whole NWCC project against the new, separable, and high value criteria. Later in this chapter, we consider options for packaging, and whether those packages meet the criteria.

New

3.9. **Our view is that the project meets the *new* criterion**. There are no existing transmission assets in the area, and it is therefore a 'greenfield' development.

3.10. The project as currently scoped will involve works at the Harker and Middleton substations where the project connects into the existing wider transmission system. These are likely to be a mix of modification[19] and extension works. We consider that the extension[20] work would meet the new criterion as it involves the installation of new assets. We do not consider that the modification works would meet the new criterion, as those works are on existing assets. We consider this further under 'Packaging'.

3.11. TNEI set out in their report that they consider the majority of the proposed assets to be *new*. They highlighted the modification and extension works as a particular point to consider which of those assets could be categorised as *new*.

Separable

3.12. **Our view is that the project meets the *separable* criterion**. The project as scoped can have its ownership boundaries clearly delineated, due to well-defined interfaces between the project end-points and the wider network it is 'plugging in to'. These interfaces should be manageable in line with normal industry arrangements and do not, in our view, create additional operability challenges if a CATO were appointed.

3.13. We have set out in paragraph 3.39 our view of the specific options for managing the separation of interface points at the Harker and Middleton substations, at the end-points of the project.

[19] Ie re-configuration works on existing assets, or removal of existing assets, to enable the interface, eg moving boundary fences.
[20] Ie new works, within an existing site, to enable the interface, eg a busbar extension.

3.14. TNEI set out that they expect most of the proposed assets will be separable, although particular consideration should be given to the modification and extension works. They also considered the potential for further electrical separability of the proposed assets. In their view, using the principles contained within the Connection and Use of System Code (CUSC) would allow for electrically separable packages to be defined.

High value

3.15. **Our view is that the project meets the *high value* criterion**. The expected base cost is around £2.1bn, which is above the £100m threshold for competition. This figure represents NGET's current view of the project capex, and including a P50 risk allowance would bring it to £2.5bn.

3.16. In TNEI's report, they set out that they believe the project as a whole meets the *high value* criterion, based on their assessment of the indicative costs provided in the Initial Needs Case submission.

Summary

3.17. Our view is that the project meets the criteria for competition, based on the analysis against the criteria as set out above. This is supported by TNEI's assessment.

Other factors considered

Deliverability

Project milestones

3.18. The key generator dates which drive the project milestones are summarised in Table 1.

Table 1: Key generator dates

Milestone	Target date
Site supplies	August 2021
Moorside Unit 1	August 2025
Moorside Unit 2	August 2026

3.19. NuGen's Moorside site requires 'site supplies' in order to operate their onsite construction facilities. To do this, NGET plan to complete the Moorside to Harker section (81km of 400kV overhead line) of the project by the target date of August 2021. We are aware that NuGen have recently submitted a modification application to NGET, in which this date is proposed to move to August 2022.[21] We have not yet received an appropriately detailed and justified revised construction programme from NGET, but expect to have received this by the time of our statement in late spring 2017.[22]

3.20. The remainder of the project will need to be in place by the time of the first reactor unit coming online in August 2025.

3.21. The above milestones are driven by NuGen, and could change further at a later date, subject to the established modification application processes.

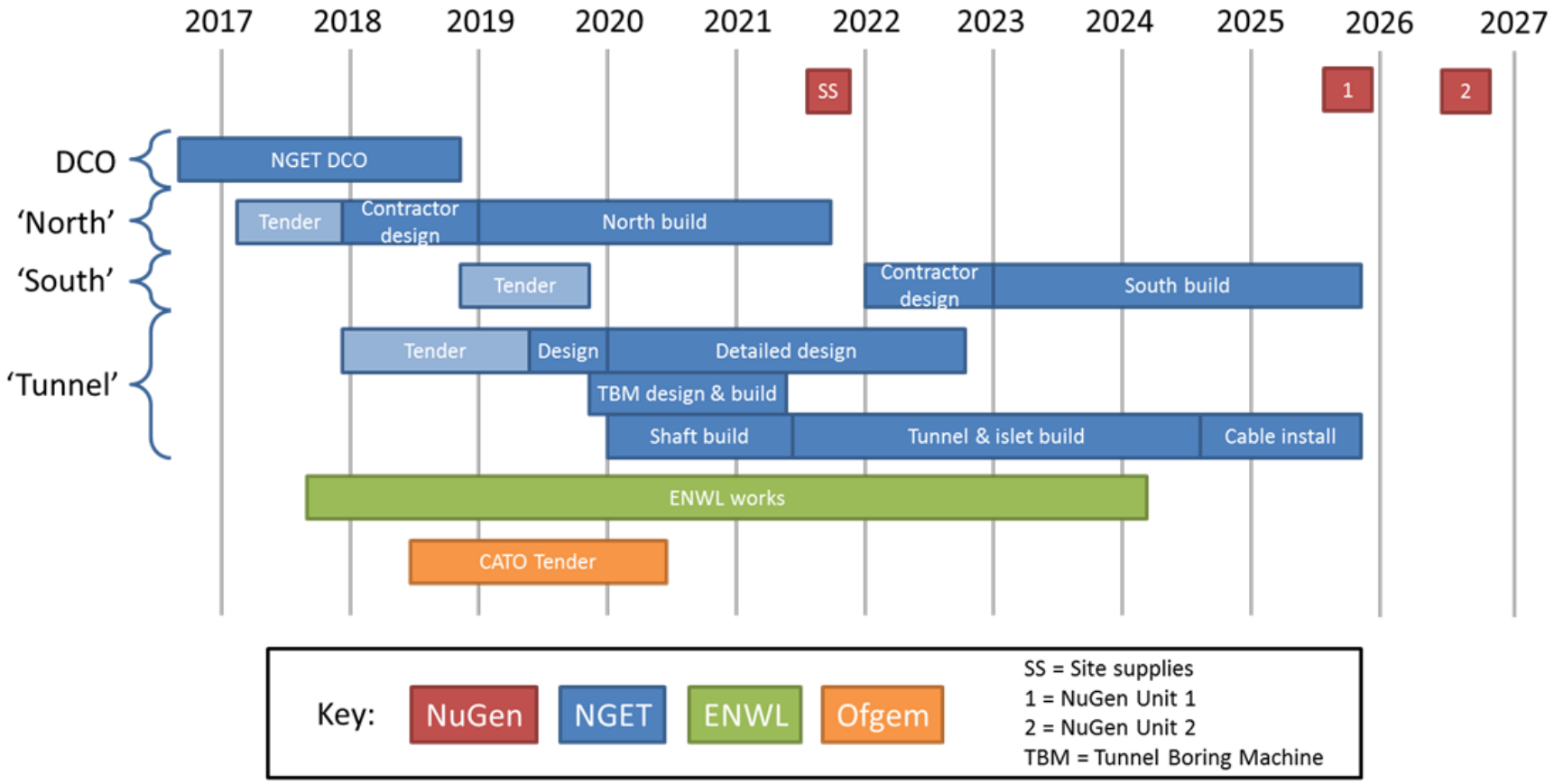
3.22. Figure 2 shows the overall project timings, as proposed by NGET. These timings are subject to change, based on the NuGen timings described above (including the current modification application), and/or based on the design taken forward by NGET (eg route corridor and/or level of undergrounding).

Tender process timings

3.23. We currently expect to be able to run our first tender by mid-2018.[23] In Figure 2 we show indicative timelines for running the earliest tender, using the tender stages timings from our August consultation. From this, we expect to be able to have a CATO in place by mid-2020.

[21] The TNEI report makes reference to August 2022 for all parts setting out the context and process of the Initial Needs Case.
[22] We received a revised high-level construction plan for the project from NGET shortly before publication of this document. However, this contained insufficient programme justification to allow us to effectively scrutinise it. As such, we have decided to consult on the most recent detailed information available to us. We expect to review any detailed programme updates from NGET in due course, alongside wider feedback from stakeholders, as part of this consultation process.
[23] Subject to the necessary regulatory framework being in place to underpin the tender.

Figure 2: Indicative timeline based on NGET's construction programme



Our assessment

3.24. There would be around 1 year from CATO appointment until the August 2021 milestone date. Our current view is that a CATO may be unable to meet this first milestone, given our earliest CATO appointment date. This impacts on CATO deliverability of the northern section of the project (see 'Packaging'). Given the recent modification application to move this milestone to August 2022 we will keep the assessment for this section under review. Based on early information we have received so far, our provisional view is that a CATO may still be unable to meet this milestone.

3.25. There would be around 5 years from CATO appointment until the August 2025 milestone date. During our assessment of the Initial Needs Case, NGET provided justification that the time required to procure, construct, and lay cable in the tunnel would be around 6-7 years. TNEI have considered NGET's justification, and broadly agree with the timetable and evidence provided. If this is correct, then a CATO may be unable to deliver the tunnel on time, however we would like to understand industry views on the timeline for the tunnel.

3.26. We consider that a CATO would likely have sufficient time from appointment to the August 2025 milestone date to deliver the southern section. We explore this further under 'Packaging'.

3.27. There are three particular areas of uncertainty that may change our deliverability assessment:

- Changes to milestones for the proposed Moorside nuclear station necessitating changes to transmission connection dates. This is possible given the early stage of development for the generation project (ie the project has not yet secured a CfD).

- A change to the timetable for implementation of the CATO regime. This is possible, as we set out in November that our timetable for implementation is currently based on securing legislative change.

- Changes to the timetable of the Development Consent Order (DCO). It is possible that the DCO process may take longer than currently envisaged, which may delay connection dates for the project.

Transferability

Planning consents

3.28. NGET is currently preparing an application for a DCO.[24] Within the draft DCO[25] there is a provision for the Secretary of State to transfer any or all of the benefit of the order, which is a standard provision in most DCOs. Our view is therefore that the consent is capable of being transferred to a CATO if one were to be appointed.

Property rights

3.29. The DCO will provide for the compulsory purchase powers that may be required in relation to the NWCC project. As noted in paragraph 3.28 above, the draft DCO contains a standard transfer provision, enabling the Secretary of State to transfer any or all of the benefit of the order, including such compulsory purchase powers, to a CATO.

3.30. To the extent that property rights are obtained by NGET prior to the appointment of a CATO, these would be included in the Tender Specification Outputs[26] and/or would be available to bidders during the tender through the data room.

3.31. We consider that any relevant property rights obtained by NGET should be capable of being transferred to a CATO. We consider that such property rights should be sought in such a way as to enable transfer to a CATO at a later date. However, if a particular property right has express or implied transfer restrictions, bidders would be expected to account for this in their bid (eg in terms of time and/or cost of negotiating a transfer with the parties or seeking a new property right).

[24] https://infrastructure.planninginspectorate.gov.uk/projects/north-west/north-west-coast-connections-project-n-grid/
[25] http://www.northwestcoastconnections.com/bgo/documents.asp
[26] The Tender Specification Outputs are the documents and data about the project produced by the TO that will be placed into a data room, and then accessed by bidders during the tender. For more detail refer to the November decision.

Packaging

Overview

3.32. We set out our considerations around project packaging in our November decision. We consider that there are three forms of packaging applicable to projects, which are bundling, splitting, and re-packaging.

3.33. We consider below whether there is a benefit in applying the packaging principles described in our November decision to NWCC. We invite stakeholder comment on our considerations. TNEI have also set out their view of the potential re-packaging of the project in their report.

Summary of potential project sections

3.34. We have considered whether each section of NWCC (north, south, tunnel) meets the criteria for tendering, and whether it is deliverable by a CATO. These sections have different milestone requirements based on when they are required by the generator. In Appendix 2 we have included a diagram setting out the indicative scope of these three sections.

3.35. As discussed in 3.29, we have identified possible constraints on deliverability of the north section related to the requirement for site supplies to the NuGen site by August 2021,[27] and the tunnel section related to completion of procurement and construction by late 2025. In Table 2 we have set out some key information about each section and a summary of our assessment.

3.36. At this stage in our assessment we are not considering how any potentially tenderable sections might be tendered (eg via a single tender or more than one tender). We will consider this further, pending the outcome of this consultation and any further developments in connection with the project and/or CATO regime implementation timings. We expect that any sections which are not to be tendered will remain under the SWW delivery pathway.[28]

3.37. As part of our decision on tendering, it will also be important to consider the impact of tendering one or more sections on the overall deliverability and robustness of the whole project. For example, we are interested in stakeholders' views on how sections being delivered by different parties could be efficiently and effectively coordinated, given that sections may be delivered in parallel.

[27] Noting the recent modification application to move this milestone to August 2022, discussed in paragraph 3.19.
[28] Noting that each section individually is sufficiently large to pass NGET's financial threshold for SWW project identification (£500m).

Table 2: Section descriptions and our assessments

Section	Description	Criteria			Deliverability, based on current timelines	Other notes
		New	Separable	High Value		
North	81km of 400kV overhead line. New substations at Moorside and Stainburn. Substation modification and extension at Harker.	Yes	Yes	Yes	Existing site supply date of August 2021. Likely to be insufficient construction time available to a CATO. Based on a recent modification application to move this milestone to August 2022, we are keeping this under review, and awaiting updated programme information from NGET.	Section includes Harker modification and extension. No expected transferability issues.
South	61km of mixed 400kV overhead line and underground cables. New substation at Roosecote.	Yes	Yes	Yes	First unit connection August 2025. Likely to be sufficient construction time available to a CATO.	No expected transferability issues.
Tunnel	22km tunnel from Roosecote to Middleton, including a ventilation islet in Morecambe Bay. Substation modification and extension at Middleton.	Yes	Yes	Yes	First unit connection August 2025. Time required to procure and construct tunnel may be 6-7 years. Potentially insufficient procurement and construction time available to CATO.	Section includes Middleton modification and extension. No expected transferability issues.

3.38. We consider that NWCC could be suitable for splitting and re-packaging. We invite stakeholders to respond on our views presented in Table 2, and in particular, whether they agree with our views on whether the sections meet the criteria, and our deliverability assessments.

Appropriate substation works party

3.39. As the project is currently scoped, there are modification and extension works planned at both the existing Harker and Middleton substations.[29] We have indicated these on the diagram provided in Appendix 2. We consider that the extension works are new, and the modification works are not new. We have considered how these works could be re-packaged between the relevant parties in order to deliver an economic and efficient tender, given the potential complexity and risk associated with working on or near existing assets owned by another party.

3.40. We have considered three options for re-packaging, which are summarised in Figure 3:

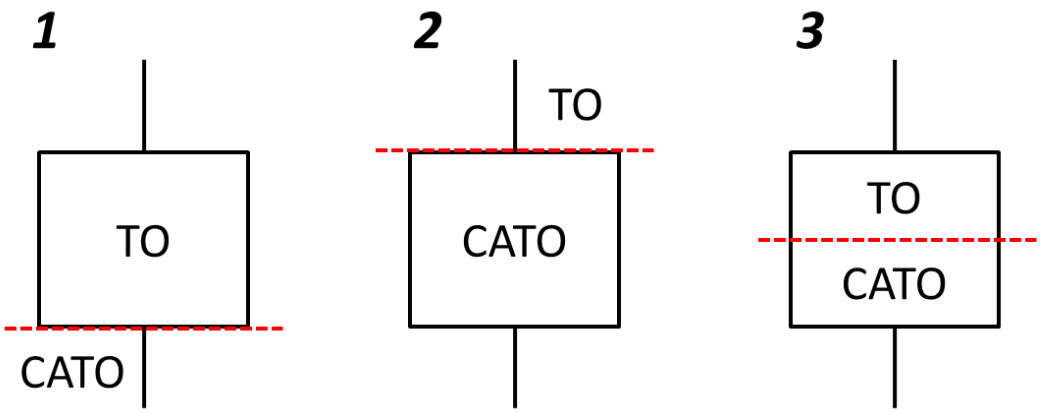
1. Incumbent TO ownership of whole substation – boundary with the CATO moves to typical boundaries under the industry codes (ie the principles of ownership outlined in Section 2, paragraph 2.12 of the CUSC).[30]

2. CATO ownership of the whole substation – transfer of incumbent TO assets to the CATO[31] (up to the remainder of substation); boundary moves to typical boundaries under the industry codes.

3. Ownership of substation split between CATO and incumbent TO – CATO owns and is responsible for delivering extension works. Incumbent TO owns and is responsible for existing substation and modification works. Interface and working agreements at boundaries between CATO/TO assets.

[29] See 'Volume 3.7 Site Layout Plans':
http://www.northwestcoastconnections.com/bgo/documents.asp
[30] See Section 2 of the Connection and Use of System Code (CUSC):
http://www2.nationalgrid.com/uk/industry-information/electricity-codes/cusc/the-cusc/
[31] The potential for such asset transfer, on an exceptional basis, is covered from paragraph 2.12 of the November decision.

Figure 3: Simplified summary of options to re-package substation works (black lines are transmission lines, black boxes are substations, and the red lines are indicative division points)



3.41. Our current view is that options 1 and 3 may be the most appropriate to consider if we were to tender the project. Their reliance on established codes, agreements, and industry ways of working could make them easier to implement and less administratively onerous than option 2, which would require transfer of existing assets to the CATO and include associated due diligence by bidders.

3.42. We welcome stakeholder comments on the options presented, and views on any other options not included above. In particular, we are interested in stakeholders' views on any opportunities, issues or risks that may arise from the options presented.

Interactions with other parties

Interactions with ENWL

3.43. The project as currently scoped involves significant interactions with the ENWL distribution network. A substantial part of the existing 132kV network will be either removed or undergrounded across the length of the project, and other voltages removed or diverted, to enable the new 400kV transmission line to be put in its place. In Appendix 3, we have provided an outline map with an indicative scope of the affected area. This may require work on the ENWL network well ahead of both DCO and any formal transmission network funding, either through SWW or through a CATO. This is particularly the case for the north route, being the earliest phase being put in place.

3.44. NGET are currently working with ENWL to develop an agreement covering final network configuration, working arrangements, and construction funding. Our preference is that this agreement would transfer to the CATO on appointment to

fund and manage. The works required and particular arrangements are specific to this project, and we consider that some aspects of the agreement may need to vary or be amended based on our engagement with ENWL and potential bidders. As set out in the November decision, the agreement to be signed by bidders would be available in the data room, such that all bidders can bid against the same terms.

3.45. Our view is that the work involving ENWL on the affected distribution network is not a barrier to a successful tender and construction of the project by a CATO. In Chapter 3 of the November decision we set out our preference on how third party construction works should be funded and managed by the TO, and the CATO after appointment. In summary, we expect the TO to manage any third party construction works that are essential before CATO appointment, and we would fund the TO for the economic and efficient costs of those works. Also, as set out in the November decision, our overarching principle is that the impact on third parties of any new CATO interface should be neutral, both in terms of costs and level of risk. We are continuing to engage with ENWL to determine the best arrangements to facilitate this in the event of a CATO tender, including any tendering decision that involves splitting the project into packages delivered by different parties.

Relevant planning consultees

3.46. As discussed in Chapter 2, the project as currently scoped involves a route through the Lake District National Park (LDNP). Therefore, the LDNP Authority, Natural England, Historic England, and the National Trust, as well as other local planning authorities, will be key stakeholders for whichever party/parties deliver the project.

3.47. If we were to tender any of the project, we would expect a CATO to be aware of its responsibilities in these areas, and to understand and comply in full with all conditions associated with the DCO. This would be covered within the obligations in its licence. We set out further detail on obligations and incentives on CATOs in our August consultation. Given this expectation, and given that the DCO is capable of being transferred, in full or in part, we currently do not consider that CATO delivery should have any additional impact on local stakeholders, as compared to the counterfactual of incumbent delivery.

Appendices

Index

Appendix 1 – Connection options considered by NGET

Table 3: Connection options considered by NGET

	Option 1	Option 2- NGET's Preferred	Option 3	Option 4
Description & representative illustration	 Two double circuits north from Moorside to Harker	 One double circuit north from Moorside to Harker. One double circuit south from Moorside to Middleton via tunnel under Morecambe Bay	 One double circuit north from Moorside to Harker. One HVAC double circuit onshore south Moorside to Kirksanton and offshore Kirksanton to Stanah	 One double circuit north from Moorside to Harker. One HVDC double circuit south from Moorside to Stanah
P50 NGET cost estimate	£1.4bn	£2.5bn	£2.7bn	£3.2bn
P80 NGET cost estimate	£1.6bn	£2.8bn	£3bn	£3.5bn
Performance in NGET CBA relative to preferred option	4th – Poor CBA performance due to constraints caused by all Moorside's power flowing north	1st	2nd - Higher capital cost without any additional system benefits	3rd - Higher capital cost without any additional system benefits

Appendix 2 – Schematic map of NWCC

The figure below is a schematic representation of the major elements of the project. We have labelled this schematic with the distinct sections we have identified, which we have summarised in the accompanying table.

Table 4: Colour codes for Figure 4

Element	Colour
North section	Blue
South section	Green
Tunnel section	Brown
Existing Harker and Middleton substations	Black
Extension/modification works to Harker and Middleton substations.	Red

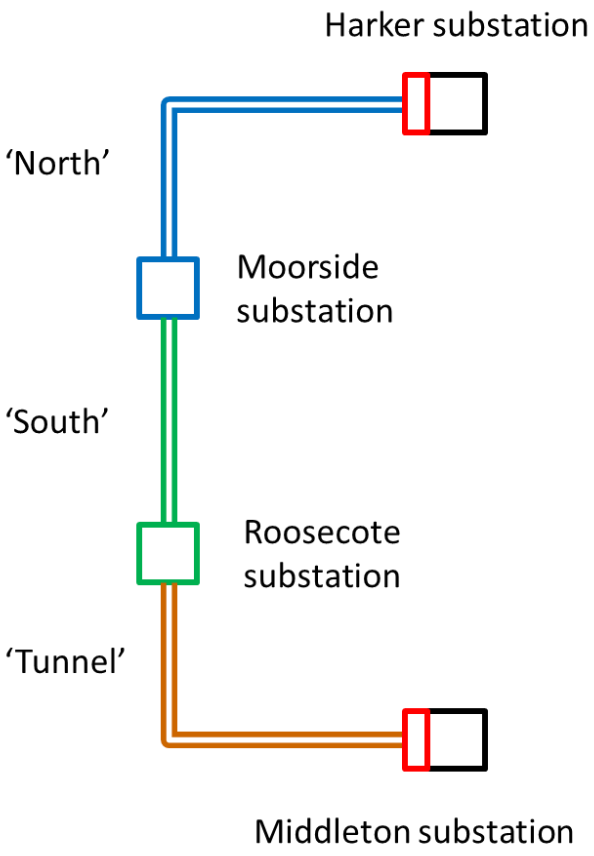
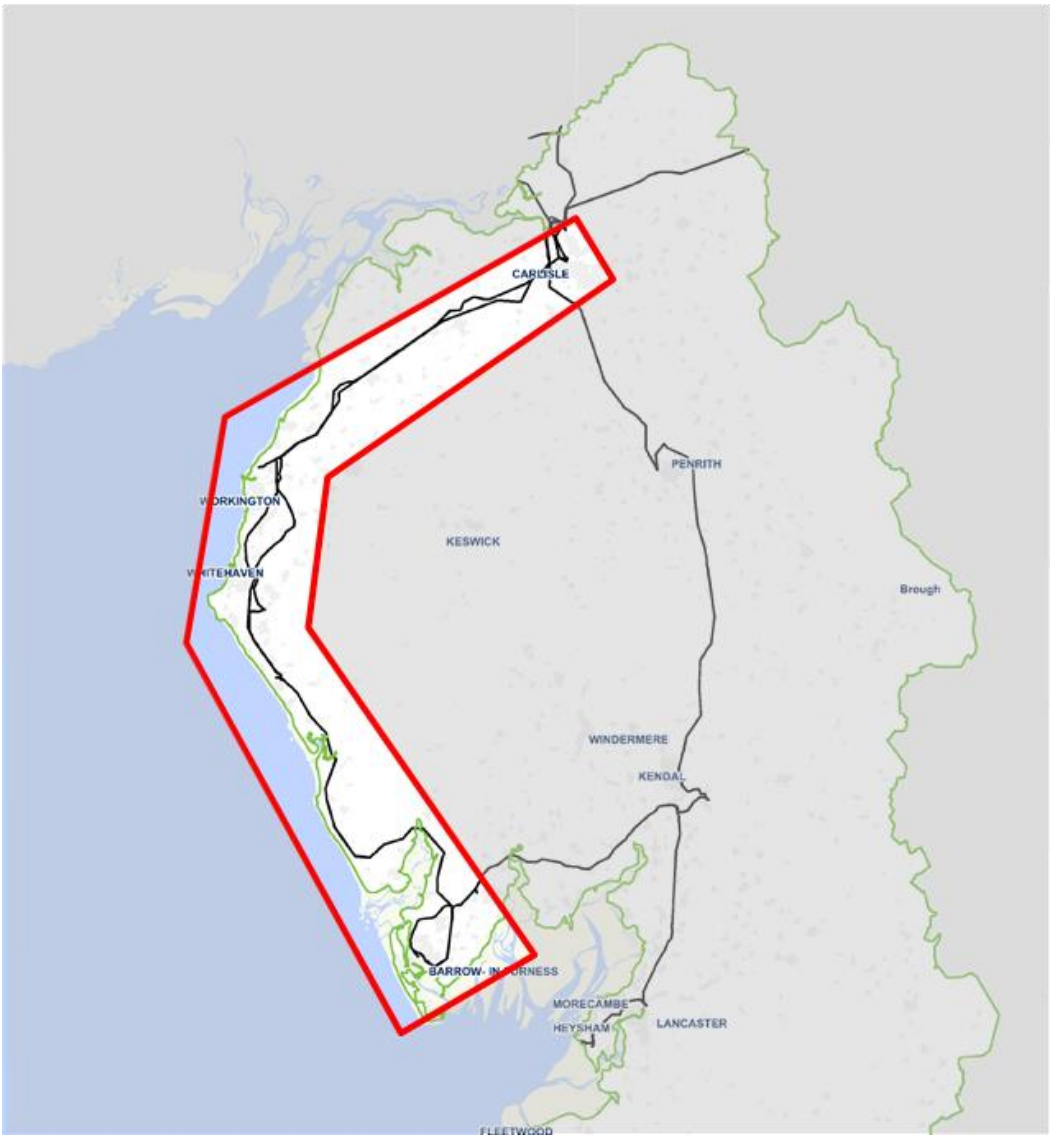


Figure 4: Representation of major elements of the project.

Appendix 3 – Map of ENW interactions

Figure 5 below shows the outline of the approximate area of the ENWL 132kV network affected by NWCC. Lower voltage level interactions are not marked on this figure.

Figure 5: Outline of affected ENWL network



Appendix 4 – Feedback on this consultation

We want to hear from anyone interested in this document. Send your response to the person or team named at the top of the front page.

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

Unless you mark your response confidential, we'll publish it on our website, www.ofgem.gov.uk, and put it in our library. You can ask us to keep your response confidential, and we'll respect this, subject to obligations to disclose information, for example, under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004. If you want us to keep your response confidential, you should clearly mark your response to that effect and include reasons.

If the information you give in your response contains personal data under the Data Protection Act 1998, the Gas and Electricity Markets Authority will be the data controller. Ofgem uses the information in responses in performing its statutory functions and in accordance with section 105 of the Utilities Act 2000. If you are including any confidential material in your response, please put it in the appendices.

General feedback

We believe that consultation is at the heart of good policy development. We are keen to hear your comments about how we've conducted 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 your comments to stakeholders@ofgem.gov.uk