Consultation

Harker – Consultation on the project's Final Needs Case

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We are consulting on our minded-to position on the Harker Energy Enablement (Harker) electricity transmission project. We would like views from people with an interest in new transmission infrastructure, meeting the net zero challenge and competition in onshore transmission networks. We particularly welcome responses from consumer groups, stakeholders impacted by the project, stakeholders with an interest in the costs of electricity transmission infrastructure, and transmission owners. We would also welcome responses from other stakeholders and the public.

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

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

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Executive summary

1. Introduction

What are we consulting on?

1.1 This document sets out our minded-to position on the need for (and future regulatory treatment of) a proposed electricity transmission project to deliver new customer connections, improved asset health and provision of sufficient capacity to meet future demand growth.

1.2 Chapter 2 summarises our findings on the FNC for this project, the conclusions of our assessment, and our proposed position. Our questions are:

- Q1: Do you agree with the need for investment on the transmission network?
- Q2: Do you agree with our conclusions on the technical options considered?
- Q3: Do you agree with our conclusions on the CBA?

Chapter 3: Delivery via a competition model

1.3 Chapter 3 summarises our proposed position on whether the project meets the criteria for late competition and whether it should be funded through a late competition model.

- Q4: Do you agree with our minded-to decision to retain the Harker project within the LOTI arrangements under RIIO-2?

Chapter 4: Large project delivery

1.4 Chapter 4 summarises the Large Project Delivery (LPD) funding mechanism and our proposed view of its applicability to the project.

- Q5: Do you agree with our proposed approach to LPD for Harker?

Chapter 5: Next steps

1.5 Chapter 5 summarises our expectation for the next stages of assessment.

Context

1.6 Great Britain's (GB) 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, Scottish Power Transmission (SPT) in the south of Scotland, and Scottish Hydro Electric Transmission (SHET) in the north of Scotland. We regulate these TOs through the RIIO (Revenue = Incentives + Innovation + Outputs) price control framework. For offshore transmission, we appoint Offshore Transmission Owners (OFTOs) using competitive tenders.

1.7 The incumbent onshore TOs are currently regulated under the RIIO-2 price control which started on 01 April 2021 and will run for 5 years. Under this price control we developed a mechanism for assessing the need for, and efficient cost of, large and uncertain electricity transmission reinforcement projects. This mechanism is called 'Large Onshore Transmission Investment' (LOTI). Once the need for and the costs of projects have become more certain, the TOs will submit construction proposals and seek funding for them. As explained in chapter 9 of the RIIO-2 Final proposals – Core Document[9] (REVISED), all projects that come forward for assessment via the LOTI re-opener mechanism during the RIIO-2 period will be considered for their suitability for delivery through one of the late competition models.

1.8 The LOTI re-opener mechanism provides TOs with a route to apply for funding for large investment projects that can be shown to deliver benefits to consumers, but that were uncertain or not sufficiently developed at the time we set costs and outputs for the RIIO-2 price control period. The LOTI mechanism provides a robust assessment process through which we can ensure that TO proposals represent value for money for existing and future consumers.

1.9 To qualify for the LOTI mechanism, TO proposals must meet the following criteria:

a) be expected to cost £100m or more of capital expenditure; and

[9] RIIO-2 Final Determinations, Core Document (REVISED), chapter 9

b) be, in whole or in part, load related[10].

1.10 We are satisfied that Harker meets the criteria and is eligible[11] as a LOTI project. We are therefore assessing Harker in accordance with the LOTI mechanism as detailed in the LOTI Guidance[12].

Stages of our LOTI assessment

1.11 Following the approval of eligibility, our LOTI mechanism is made up of three main stages:

1. **Initial Needs Case (INC)** – The usual focus of our assessment at this stage is to review the technical and/or economic need for the project, the technical options under consideration, and the TO's justification for taking forward its preferred option for further development.

2. **Final Needs Case (FNC)** – Following the securing of all material planning consents for the project, the TO will then need to submit a FNC (unless we specify alternative timing). The focus of our assessment at this stage is to confirm the need for the project by checking that there have been no material changes in technical and/or economic drivers that were established in the INC.

3. **Project Assessment (PA) –** If the FNC is approved, the TO will then need to apply for a PA direction. The focus of our assessment at this stage is the assessment of the proposed costs and delivery plan that the TO has in place for the project, with a view to potentially specifying in the TO's licence a new LOTI Output, a LOTI Delivery date, and setting the efficient cost allowances that can be recovered from consumers for delivery of the project.

Related publications

1.12 RIIO-2 Final Determinations – Core Document and NGET Annex – both REVISED: Ofgem.gov.uk/publications-and-updates/riio-2-final-determinations-transmission-and-gas-distribution-network-companies-and-electricity-system-operator

[10] Part (b) of this criterion used to be either "wholly or partly load related" or "shared-use or sole-use generator connection project related". As a result of a licence modification, which came into effect on 24 July 2021, the "shared-use or sole-use generator connection project" criterion no longer applies. However, this does not impact the project as this is in part a load related project. For further information on the licence modification, see the Decision on the proposed modifications to the RIIO-2 Transmission, Gas Distribution and Electricity System Operator licence conditions
[11] RIIO-2 Final Determinations, NGET Annex (REVISED), section 3.60
[12] Large Onshore Transmission Investments (LOTI) Re-opener Guidance

1.13 LOTI Re-opener Guidance document: Ofgem.gov.uk/publications-and-updates/large-onshore-transmission-investments-loti-re-opener-guidance

Consultation stages

Stage 1	Stage 2	Stage 3	Stage 4
Consultation open	Consultation closes (awaiting decision). Deadline for responses	Responses reviewed and published	Consultation decision/policy statement
21/07/2023	18/08/2023	Early Autumn	Early Autumn

How to respond

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

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

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

Your response, data and confidentiality

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

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

1.19 If the information you give in your response contains personal data under the General Data Protection Regulation (Regulation (EU) 2016/679) as retained in domestic law following the UK's withdrawal from the European Union ("UK GDPR"), the Gas and Electricity Markets Authority will be the data controller for the purposes of GDPR. Ofgem uses the information in responses in performing its statutory functions and in accordance with section 105 of the Utilities Act 2000. Please refer to our Privacy Notice on consultations contained within appendix 1.

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

General feedback

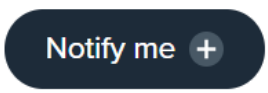
1.21 We believe that consultation is at the heart of good policy development. We welcome any comments about how we have run this consultation. We would also like to get your answers to these questions:

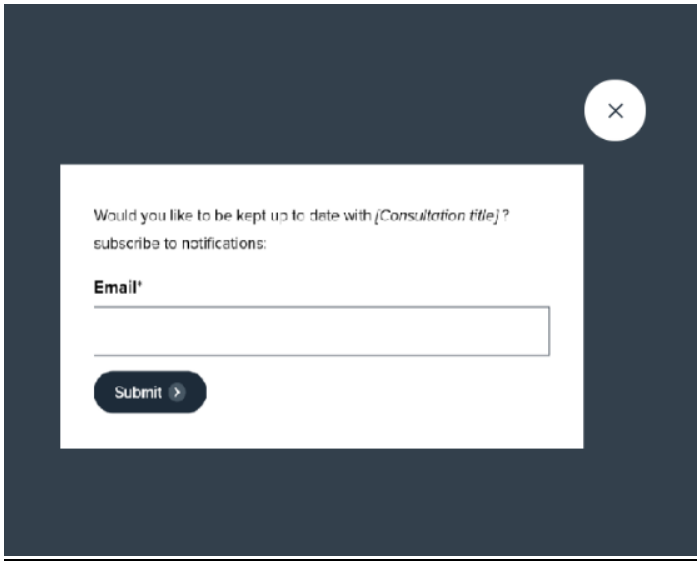
1) Do you have any comments about the overall process of this consultation?
2) Do you have any comments about its tone and content?
3) Was it easy to read and understand? Or could it have been written better?
4) Were its conclusions balanced?
5) Did it make reasoned recommendations for improvement?
6)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

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

How to track the progress of the consultation

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





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

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

2. Harker Final Needs Case assessment

Section summary

This chapter sets out the key decisions NGET has made to date on the project. It then explains our findings on the technical need, options, and CBA.

Questions

Q1. Do you agree with the need for investment on the transmission network?
Q2. Do you agree with our conclusions on the technical options considered?
Q3. Do you agree with our conclusions on the CBA?

Overview of NGET's proposal

2.1 On 31 October 2022, we published our decision[13] on NGET's INC regarding the Harker project. Chapter 3 of that document laid out NGET's proposal, the options considered, and the CBA approach that NGET took. This chapter will focus on the changes since that submission and our views on what we consider to be material developments to the engineering solution, CBA or programme.

2.2 The Harker site, comprised of 132kV, 275kV, and 400kV substations, is situated on the northern outskirts of Carlisle in the North-West of England, south of the border with Scotland next to the M6 motorway. The site provides two of the four cross-border 400kV onshore circuits connecting National Grid's transmission system in England with Scottish Power Transmission's (SPT) system in Scotland. The Harker 132KV substation was first commissioned in 1953, making it the oldest of the three substations on the site.

2.3 NGET's proposal seeks to apply significant investment across the Harker site to address a combination interfacing non-load and load drivers that have manifested over several years.

2.4 The proposed solution is a full site rebuild of Harker with a whole life cost estimated in the CBA of £252.68m (2018/19), for which the scope of works to address all drivers include:

[13] Harker – Decision on the project's Initial Needs Case and its suitability for competition | Ofgem

- Construction of new 132kV and 400kV substations, incorporating any extension and up ratings required for new circuits and additional supergrid transformers (SGTs).

- Tendering for SF6-free solutions across the site - while NGET are exploring the opportunity for SF6-free technology across the site, the viability of an SF6-free solution is expected to be confirmed during the Project Assessment stage. As set out in section 5, our expectation is that the site will eventually be fully SF6-free when constructed.

- Addition of six 400/132kV 240MVA transformers to replace existing transformers, providing capacity required for present and future load drivers.

- The removal of the 275kV substation as it is no longer needed, but maintaining existing connection to Stella West and Fourstones connected to the 400kV substation.[14]

- Replacement of existing interbus transformers on the 275kV substation[15]

The project drivers

2.5 The key drivers for the project remain unchanged since INC:

Non-load related:

- Harker 132kV:
    - The substation civil infrastructure and high-level concrete support structures require replacement.
    - Circuit breakers are assessed to be at end of life and requiring replacement.
    - Asset health of other 132kV switchgear.
- **Harker 275kV:**

[14] Two 275kV transmission circuits are connected at the Harker 275kV substation. The primary functions of these circuits are to connect Harker 275kV to NGET's Fourstones and Stella West 275kV substations located in the North-East England.
[15] The cost for the NOA works is not part of the £252.68m LOTI submission. This is now part of an Incremental Wider Works submission to expedite delivery

- Poor condition of the 275kV substation civil infrastructure. In particular, the high-level concrete support structures (assuming assets are reused to satisfy the need for load related drivers).

- **Harker 400kV:**

  - SF6 loss from the 400kV Gas Insulated Switchgear (GIS).

2.6 Load Related:

- Harker 132kV:

  - Connection agreement for additional reverse power infeed into the 132kV substation due to additional embedded generation on the DNO network.

  - Connection agreement as an Affected TO for the ratings increase of the two existing 132kV circuits and the creation of a third 132kV circuit to facilitate customer connections to the SPT network.

- Harker 275kV:

  - The need to uprate the 275kV equipment to allow for the additional infeed from the 132kV system to the 400kV system.

- Harker 400kV:

  - Future anticipated connections to the Harker 400kV substation either contracted or at offer stage.

- Wider Network requirements:

  - Reactive compensation needs at Harker.

  - Recommendation from NOA to proceed with upgrading of two 400/275kV transformers at Harker to increase B6 boundary capability. As noted in footnote 21, the NOA works are not being funded via this LOTI submission. Funding will be sought via the Special Condition 3.30, Wider works volume driver.

2.7 Since the project INC was submitted in August 2022[16] the estimated cost for the works has increased from £237.30m to £252.68m; an increase of £15m (6%). The increase is due to maturing scope that developed as the project progressed through Front End Engineering Design (FEED). The scope changes were also relevant to Option 4, and this has been factored into the CBA presented below in this chapter.

2.8 We have concerns about this forecast cost increase and its associated justification, we will consider the estimated costs for the project in more detail during the PA stage, the final phase of the LOTI process. The increase has not impacted on the outcome of optioneering or the project's needs case.

Options considered

2.9 Four options and a do-nothing counterfactual were developed and evaluated at the INC stage.

Option 1: Replace and upgrade 275kV substation, rebuild 132kV substation and extend the existing 400kV substation.

2.10 This option is the progressive replacement and upgrade of the existing infrastructure at Harker. It was rejected on the basis that it would preserve the 275kV substation and would be an inefficient departure from transmission systems, where the 275kV voltage level is being gradually phased out and replaced by 400kV infrastructure to increase the capability of the network. It is also a comparatively high-cost approach to resolving the issues when measured against rebuilding Harker.

2.11 In NGET's view, with this option key customer connection dates would not be met, as the 132kV and 275kV substations would need to be replaced over an extended programme. The build sequence is estimated be in excess of 13 years, which is not suitable for the timescales required.

Option 2: In-situ replacement of the whole substation.

2.12 This is a phased approach, where removal of assets at the 275kV substation would create space to build the replacement 400kV and 132kV substations within

[16] Harker – Consultation on the project's Initial Needs Case and initial thinking on its suitability for competition | Ofgem

the footprint of the existing site. The works to meet NOA drivers would form the early stages of the programme, with the rebuilding of the 400kV and 132kV substations following.

2.13 The work to remove the 275kV substation, while maintaining supplies to the 132kV substation, would require the installation of temporary connections across the site. NGET highlight that this would not be the most efficient delivery approach and is reflected in the costs. There are likely to be extensive and complicated build stages and the option is only viable following further system studies and agreement with the ESO and customers.

2.14 According to NGET, this option would also fail to meet earlier delayed revised key customer connection dates as the 132kV and 400kV substations would be replaced in a consecutive sequence, and elements of the 275kV substation would need to be demolished to create space for further construction resulting in an extended programme. The build sequence is estimated to be in excess of 10 years. In addition, there are also various risks and hazards associated with this option, and therefore the option was rejected.

Option 3: Rebuild of the substation on a greenfield site in GIS.

2.15 This was NGET's preferred option at INC and remains so for FNC. In contrast to Option 2 above, Option 3 would deliver a new 400/132kV substation on a greenfield site adjacent to the existing site. The substation would be taken away from the existing constraints and hazards of working within the existing Harker compound, therefore this option is considered a lower risk approach and a better option for achieving the dates required for the load related drivers. The construction would likely take two years, followed by three years of commissioning outages to divert connections into the new substation. The completion date is therefore estimated to be 2026.

2.16 As stated, this is NGET's preferred option to address the project drivers at Harker; it is considered the most likely to succeed, within budget and on time. Additionally, the perceived benefit of GIS technology is a reduced footprint compared to AIS31 solution (Option 4) which means land can be purchased at a lower cost than AIS, and there is a lower risk of complications with the planning application required.

Option 4: Rebuild the substation on a greenfield site in AIS.

2.17 As per Option 3, this option proposes the building of a new 400/132kV substation on a greenfield site adjacent to the existing site. The substation would also be taken away from the existing constraints within the compound, making this a lower risk approach. However, as an AIS solution this option would require significantly greater land than the smaller footprint GIS solutions. The footprint of the site would extend to 146,503m² or more depending on the final configuration of the site. This is in comparison to the GIS solution in Option 3, which would have a footprint of 41,800m². As a result, NGET consider there is a greater risk of not achieving the dates required for the load related drivers due to additional consenting, land acquisition and a lengthier civils programme. The risk of planning objections is perceived to be significant from both a statutory and public perspective, hence this option was rejected by NGET.

Baseline: Do minimum

2.18 The baseline counterfactual addresses none of the load or non-load issues at Harker; asset performance would continue to deteriorate and forecasted demand growth would not be accommodated. Constraint costs and carbon emissions would increase as a result. The baseline option was discounted for these reasons.

Summary

2.19 At INC we agreed with NGET's selection of Option 3 as the preferred option to be taken forward. This was predominantly based around the poor condition of existing assets at Harker and the necessity for their rebuild to be able to accommodate new infrastructure necessary for forecast growth.

2.20 No further work has therefore been done on development or design for options 1, 2 and 4 however NGET has continued to update costs for these options based around information from Front End Engineering Design (FEED) work.

2.21 FEED has since concluded and in January 2023 NGET undertook a review of the CBA which concluded that there were no material changes that had impact on the outcome of optioneering. Additional support for the selection of Option 3 was also provided by a review of the power system studies which confirmed that the option satisfied the project drivers.

CBA process

2.22 NGET updated the CBA they had submitted for the INC (shown in Table 1 below), confirming their view that Option 3 remains the optimal solution, with an

estimated cost of £252m and a total Net Present Value (NPV) of -£184.56, outperforming all other options.

2.23 The CBA applies a generated spending profile to each option, from which total expenditure and NPV over the period are determined. The total expenditure for each option reflects the total estimated cost of the associated scope of works necessary to deliver the relevant option, with the cost of end-of-life interventions also factored in.

2.24 The NPV for all options are in negative figures; investments and constraint costs represent cash outflows, and so the favourable option from an NPV perspective is the one with the highest value (least negative) outcome.

Table 1: Option NPVs (preferred option highlighted)

Option	Description	Total Forecast Expenditure	Delta to baseline	10 Years	20 Years	30 Years	45 Years	Total NPV
Baseline	Do minimum	-170.73		524.40	912.73	1,154.5	1,354.4	1,383.88
1	Replace and upgrade 275 kV substation, rebuild 132kV substation and extend the existing 400kV substation.	-233.64	1,193.52	-49.79	-114.24	-152.90	-184.67	-190.36
2	In situ replacement of the whole substation	-248.36	1,099.57	-91.97	-174.64	-230.07	-276.18	-284.31
3 Updated post FEED	**Rebuild of the substation on a greenfield site (GIS)**	**-252.68**	**1,199.32**	**-73.89**	**-119.33**	**-152.76**	**-180.66**	**-184.56**
4 Updated post FEED	Rebuild of the substation on a greenfield site (AIS)	-266.29	1,191.40	-70.64	-122.35	-158.04	-187.70	-192.48

2.25 As noted above, since the INC, there has been no further development of Options 1, 2 and 4, whilst Option 3 underwent FEED. Although option 4 did not progress through FEED, the outcome of FEED on option 3 resulted in some slight adjustments required to scope that are applicable to both options 3 and 4:

- The number of bays of switchgear within the 132kV substation has increased from 23 to 24.

- Updated external benchmarks have increased the estimating unit for the Statcoms / Dynamic Reactive Compensation.
- Optimisation of the design during FEED has reduced the substation footprint and associated estimated cost.
- The inclusion of cost for a bay in the 400kV substation.

2.26 As previously stated, the impact of these changes is a cost increase to Option 3 of £15.38m (+6%) and to Option 4 of £15.52m (+6%).

Our minded-to position on the Harker project

Non-load, load, and security of supply drivers

2.27 Our position remains as per our INC decision[17] with respect to the non-load drivers; we recognise the urgent requirement for asset intervention to ensure continued safe operation of the site and to support enhancements necessary to meet forecast demand growth.

2.28 We agree with NGET that the load drivers demonstrated at INC stage remain consistent and support the needs case for the project.

2.29 Our position at INC was based on the expectation that the entire substation will eventually be SF6-free. This remains the case and we expect that NGET will submit an SF6-free solution for consideration at the final PA stage of the LOTI process.

Options considered

2.30 As per the INC, we deem that an appropriate range of options have been considered to address the non-load and load related drivers for Harker and that the most efficient and effective option has been selected to be taken forwards.

2.31 Options 1 and 2 involve lengthy, complex build programmes and are expensive relative to the output that is being delivered. Neither option will support the new customer connections within the required timescales.

[17] Harker INC Consultation (final).pdf

2.32 Option 4 is a similar build solution to Option 3, albeit with the installation of AIS rather than GIS. Given the sizeable footprint required for an AIS installation there is a high risk this will add time and cost to the project negotiating and acquiring land and planning consents. This in turn drives a risk to achieving customer connection timescales. This risk is perceived to be significant from both a statutory and a public perspective, hence the option was rejected by NGET. Given the critical timing and multiple delays form the original connection offer, we accept that the GIS solution is time appropriate despite our expectations of higher whole life costs associated with this option. We note that in future this does not imply that all GIS solution are economic and efficient or quicker to consent than AIS options.

2.33 Throughout the review process we have sought assurances from NGET on the use of SF6-free switchgear and assets. NGET have again stated their intention to proceed on this basis, depending on market availability, and as noted above have highlighted that it will become clearer towards the end of 2023 whether an SF6-free solution can be implemented.

CBA results

2.34 Our minded-to position is that the CBA supports the need for investment and NGET's selection of Option 3 as the preferred solution.

2.35 One of the challenges when making investment decisions is the level of uncertainty over the generation and demand driving the need for any new transmission assets. This translates into risk that consumers will pay for assets that are significantly undersized (and therefore need to be replaced or more assets built) or significantly oversized (and therefore not fully utilised). Given this, we require assurance that the assumptions that underpin forecast generation demand are appropriate and reasonable.

2.36 Overall, we consider that option 3, the preferred option put forward by NGET, is robust and well supported by the evidence submitted. It is most likely to provide the optimal solution given the complex combination of non-load and load related drivers, and the background generation assumptions that underpin the CBA.

SF6 Outcomes

2.37 As per the requirement to minimise Sulphur hexafluoride (SF6) losses, NGET are exploring the possibility of having SF6-free equipment across the site. The final outcome of this will not be apparent until their tender process is complete later in

2023. Ofgem expect that an SF6-free solution will be implemented on the project. We will explore regulatory options to determine the best approach to take in the event NGET and the supply chain cannot deliver an SF6-free solution in a manner that is proportionate to the capability of the rest of the industry and that does not impact the consumer unfairly.

3. Delivery via a competition model

Section summary

This chapter sets out whether the project meets the criteria for competition. It also explains our minded-to decision on whether to apply a late competition model.

Questions

Q4. Do you agree with our minded-to decision to retain Harker within the LOTI arrangements under RIIO-2?

Background

3.1 Competition in the design and delivery of energy networks is a central aspect of the RIIO-2 price control. Competition has a key role to play in driving innovative solutions and efficient delivery that can help meet the decarbonisation targets at the lowest cost to consumers. We set out in our Final Determinations[18] for RIIO-2 that during the RIIO-2 period, all projects that meet the criteria for competition and are brought forward under an uncertainty mechanism[19] will be considered for potential delivery through a late competition model.

[18] RIIO-2 Final Determinations, Core Document (REVISED), chapter 9
[19] Large Onshore Transmission Investments (LOTI) Re-opener Guidance, pages 9-11

Does Harker meet the criteria for competition?

3.2 The criteria for a project to qualify for late model competition[20] are as follows:

i. New
ii. Separable
iii. High value – projects of £100m or greater expected capital expenditure

3.3 In line with our assessment at Initial Needs Case stage, NGET's view is that Harker in its entirety does not meet the criterion for 'new' or 'separable'. Whilst the preferred option involves the construction of new assets, a number of existing assets will be retained and reused, hence the proposals cannot be deemed entirely new.

Delivery model considerations

Relevant consideration of models

3.4 The late competition models that are available for consideration are:

i. Competitively Appointed Transmission Owner (CATO) Model
ii. Special Purpose Vehicle (SPV) Model
iii. Competition Proxy Model (CPM)

3.5 Below we set out details of each of these models and our initial views on how suitable and efficient it would be to apply the model to Harker.

CATO

3.6 Under the CATO model, a competitive tender would be run for the financing, construction, and operation of the proposed assets that make up the project, with a transmission licence provided to the winning bidder setting out the outputs, obligations, and incentives associated with delivering the project.

3.7 The CATO model requires legislative changes to allow for new parties to be able to be awarded a transmission licence following a competitive tender. The

[20] Guidance on the criteria for competition

government has recently introduced a Bill[21] to enable competitive tendering but it is currently uncertain when it will be passed into law.

3.8 As the CATO model requires new legislation, it is difficult to determine when this might be in place. Harker's procurement programme is already well advanced, and we consider that the Invitation to Tender (ITT) stage is the critical point by which a delivery model decision should be made to ensure that the project can progress with clarity. We view that a decision to apply CATO at this point is likely to lead to a material delay to the intervention we deem necessary on the site and therefore not in the interest of consumers.

SPV

3.9 Under the SPV model, NGET would run a tender to appoint a SPV to finance, deliver, and operate a new, separable, and high value project on the licensee's behalf through a contract for a specified revenue period. The allowed revenue for delivering the project would be set over the period of its construction and a long-term operational period (currently expected to be 25 years). The SPV model was originally developed for consideration for projects where the CATO model had been discounted due to a clear expectation that underpinning legislation would not be in place in time to allow the delivery of specific projects.

3.10 We do not consider that SPV can be applied to this project without incurring delays to the programme. Given the additional work needed to finalise the SPV model at this stage, we do not consider it appropriate to implement.

CPM

3.11 The CPM involves setting a largely project-specific set of regulatory arrangements to cover the construction period and a 25-year operational period for an asset (in contrast with setting arrangements for a portfolio of assets under a price control settlement). It is intended to replicate the efficient project finance structure that tends to be used in competitive tender bids for the delivery and operation of infrastructure projects.

[21] Energy Security Bill - GOV.UK

3.12 In the RIIO-2 Final Determinations[22] we explained that due to recent market conditions and our allowed financing arrangements for RIIO-2, we might not have confidence that the application of the CPM to projects needing to commence construction at the start of RIIO-2 would deliver benefits to consumers. This position was informed by the positions determined in the May 2020 Hinkley-Seabank project.[23]

3.13 Since our decision on Hinkley-Seabank and RIIO-2 Final Determinations in 2020, we have seen some variability in the cost of debt benchmarks used to set the financing arrangements under CPM. We have not however seen changes that would provide confidence that CPM will deliver a benefit to consumers relative to the counterfactual LOTI arrangements under RIIO. In our recent FNC consultation for the EHVDC project[24], we explained that this was supported by the indicative comparative analysis of the consumer impact of applying CPM to the EHVDC projects rather than the RIIO counterfactual arrangements.

3.14 At this stage of the Harker project there remains uncertainty around the final costs associated with the preferred option. There is also scope for potential market movements between now and the point at which the financing arrangements would be finalised for CPM, in parallel to the final setting of the cost allowances for the project. Those uncertainties notwithstanding, however, we consider that we do not have sufficient confidence that application of the CPM to Harker would deliver benefits to consumers.

Our minded-to position

3.15 In our assessment Harker does not meet the full criteria for late model competition; in particular, it is neither separable nor entirely new. In addition, it is our minded-to position that applying any of the models outlined above would be detrimental to the interests of consumers. It is therefore our minded to position that applying competition to Harker is not in the interests of consumers.

[22] RIIO-2 Final Determinations for Transmission and Gas Distribution network companies and the Electricity System Operator | Ofgem
[23] Hinkley - Seabank: Updated decision on delivery model | Ofgem
[24] Eastern HVDC - Consultation on the project's Final Needs Case and Delivery Model | Ofgem

4. Large project delivery

Section summary

This chapter sets out the large project delivery options and our minded-to position.

Questions

Q5. Do you agree with our proposed approach to LPD for the Harker project?

Background

4.1 In the RIIO-2 Final Determinations[25] we set out our approach to late delivery of large projects (i.e., >£100m). We aim to ensure a network company does not benefit financially from a delay to delivery of those projects by using one of the following options:

- If a project is delivered late, we may re-profile the allowances to reflect actual expenditure to avoid the network company benefitting from the time value of money; or
- Milestone-Based Approach – we may set project allowances based on the delivery of specific, pre-agreed, milestones. The allowances would only be granted following confirmation that a milestone had been delivered.

4.2 We aim to ensure consumers are protected from any delay in delivery. To this end, we will consider setting a Project Delivery Charge (PDC) for each day a project is delivered late.

4.3 We will take into account a range of factors when considering a Project Delivery Charge, including:

- estimates of potential consumer detriment
- industry benchmarks for delay clauses on similar projects

[25] RIIO-2 Final Determinations, ET Annex (REVISED), page 32 onwards

Our minded to position

4.4 We will consider the appropriate project delivery mechanism and PDC level for Harker at the PA stage. Our minded-to position has not changed since the INC.

4.5 To address the possibility of NGET benefiting financially from any delay in delivery of the Harker project, our preferred option in a case of delay is to re-profile the allowances to reflect actual expenditure to avoid the network companies benefitting from the time value of money. We do not propose to apply the Milestone-Based Approach because we do not consider that there are any appropriate milestones in the delivery plan that could be used to set allowances in a way that will protect consumers.

4.6 Our minded-to position remains that there is a clear need to set a PDC at the Project Assessment stage for the Harker project, to protect the interests of consumers and incentivise timely delivery. Delay in delivery of Harker may lead to incurring avoidable constraint costs, continued leakage of SF6 into the atmosphere and delay in enabling embedded generation to connect.

4.7 Our decision on the level of PDC will form part of Project Assessment decision following consultation.

5. Next steps

Section summary

This chapter sets out the next steps in our assessment under the LOTI mechanism.

5.1 Our consultation on the positions set out within this document will close on 18 August 2023. We currently anticipate publishing our FNC decision in Early Autumn 2023.

5.2 If our decision on the FNC is to approve the project, we will then proceed to the PA stage of the LOTI mechanism.

5.3 Our Principal Objective (as set out in the Electricity Act 1989) requires us to protect the interests of future and existing consumers, including through the reduction of electricity-supply emissions of targeted greenhouse gases. On the basis that SF6 is considered a targeted greenhouse gas under section 24(1)(f) of the Climate Change Act 2008, we expect to see an SF6-free solution detailed as part of the PA submission for Harker. If this is not the case, it will be highly likely that we will not approve further progression of the project beyond the PA stage.

Appendices

Appendix 1 - Privacy notice on consultations

Personal data

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

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

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

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

2. Why we are collecting your personal data

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

3. Our legal basis for processing your personal data

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

4. With whom we will be sharing your personal data

N/A.

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

Your personal data will be held for six months after the project is closed.

6. Your rights

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

- know how we use your personal data,
- access your personal data,
- have your personal data corrected if it is inaccurate or incomplete,
- ask us to delete your personal data when we no longer need it,
- ask us to restrict how we process your personal data,
- get your personal data from us and re-use it across other services,
- object to certain ways we use your personal data,
- be safeguarded against risks where decisions based on your personal data are taken entirely automatically,
- tell us if we can share your personal information with 3rd parties,
- tell us your preferred frequency, content and format of our communications with you,
- lodge a complaint with the independent Information Commissioner (ICO) if you think we are not handling your personal data fairly or in accordance with the law. You can contact the ICO at https://ico.org.uk/ or telephone 0303 123 1113.

7. Your personal data will not be sent overseas.

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

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

10. More information

For more information on how Ofgem processes your data, click on "Ofgem privacy promise".