

# Consultation

## Consultation on our assessment of capital costs for the Hinkley-Seabank electricity transmission project

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We are consulting on 15/10/2019. We would like views from people with an interest in the consultation by 26/11/2019. We particularly welcome responses from consumer groups, stakeholders impacted by the project, stakeholders with an interest in the costs of electricity transmission infrastructure and the 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](https://www.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.

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## Executive summary

### Summary of consultation position

In November 2018 we received a 'Project Assessment' submission from National Grid Electricity Transmission (NGET), for its proposed Hinkley-Seabank (HSB) project<sup>1</sup> – an electricity transmission project to connect the new Hinkley Point C nuclear power station in Somerset.<sup>2</sup>

NGET's stated capital costs for delivering HSB in its Project Assessment submission to Ofgem are £716.8m<sup>3</sup>. We are minded to allow capital costs of £637.0m for the delivery of HSB, which constitutes a reduction to NGET's submitted costs of £79.8m (11%). This proposed reduction is the result of our careful review of NGET's submitted costs over the past 11 months, including benchmarking those costs against similar projects and detailed assessment of NGET's contracting and risk management strategy. The proposed reductions are primarily comprised of the following elements:

- For the overhead line works, we are minded to disallow £23.6m associated with NGET's use of new 'T-Pylons' on this project. Of that £23.6m, we are proposing to disallow £11.3m because we consider that these costs are outside the scope of the Strategic Wider Works (SWW) mechanism, as they are not specific to the delivery of HSB. We are proposing to disallow a further £12.3m because we are not satisfied that all the additional construction and installation costs for T-Pylons (compared to traditional lattice towers) are sufficiently well justified or represent value for money for consumers.
- We are minded to provide NGET with an up-front risk funding allowance of £33.2m (NGET submitted costs of £73m). This reflects our proposed exclusion of costs associated with high impact / low probability risks from the current cost

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<sup>1</sup> National Grid refer publically to the project as 'Hinkley Point C Connection': <http://www.hinkleyconnection.co.uk/>

<sup>2</sup> At the Project Assessment stage we look in greater depth at the preferred option, the TO's readiness to proceed and the efficient cost allowances that can be recovered from consumers for delivery of the project.

<sup>3</sup> All costs presented are in 2018 prices. All risk costs are P50 values.

allowances. If these risks occur during construction, NGET may be in a position to seek additional funding.

- We are minded to disallow £3.2m of costs associated with works that will be undertaken by the local Distribution Network Operator (DNO), this reflects the results of our cost benchmarking.
- We are minded to disallow £10.9m of costs relating to project management and support costs which we do not consider are justified. These particularly relate to some indirect costs from NGET’s central function that we do not consider are required.

The table below summarises our proposed adjustments to NGET’s cost allowances for HSB.

#### Proposed HSB cost adjustments

Asset / activity	Submitted cost (£m)	Provisional Adjustment (£m)	Provisional Allowance (£m)
Tendered costs (including undergrounding, overhead lines and Sandford substation)	376.9	-12.3	364.6
Untendered costs (including Melksham reconfiguration, Bridgwater Tee, Seabank substation and unlet works)	28.7	-0.1	28.6
DNO managed works	68.0	-3.2	64.8
Project Management	51.8	-10.9	40.9
Land, DCO, Safety	74.4	-2.2	72.2
Construction spend-to-date <sup>4</sup>	44.0	-11.3	32.7
Contingency / risk	73.0	-39.8	33.2
<b>Total</b>	<b>716.8</b>	<b>-79.8</b>	<b>637.0</b>

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<sup>4</sup> This includes £11.3m of 'T-Pylon development costs'

### **Interactions with delivery model consultation**

Today we have opened a separate consultation on the proposed regulatory delivery model for the HSB project.<sup>5</sup> In July 2018 we published a decision to implement the Competition Proxy Model (CPM) for delivery of the HSB project. However, in light of relevant considerations including updated analysis, we are consulting on a minded-to position of reverting to the existing Strategic Wider Works (SWW) arrangements under RIIO-T1 for the delivery of HSB. We have factored this proposed change into our assessment of capital cost allowances for HSB in this consultation, i.e. the assessment referred to in this consultation has been carried out on the basis of HSB being delivered under SWW.

### **Next steps**

After considering responses to this consultation, we intend to conclude our assessment of the costs of the HSB project with a decision in early 2020. This will be followed by a consultation on the relevant changes to NGET's licence which would be required to implement our decision on cost allowances.

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<sup>5</sup> <https://www.ofgem.gov.uk/publications-and-updates/hinkley-seabank-consultation-our-updated-delivery-model-minded-position>

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## 1. Introduction

### What are we consulting on?

1.1. This consultation sets out our initial assessment of the efficient capital costs that we are minded to allow National Grid Electricity Transmission (NGET) to recover from consumers for delivery of the Hinkley-Seabank (HSB) electricity transmission project. We seek views on this initial assessment ahead of reaching a decision. This consultation follows our review over the past 11 months of NGET's Project Assessment submission for HSB.

### Context

#### Strategic Wider Works

1.2. The GB onshore electricity transmission network is planned, constructed, owned and operated by three transmission owners (TOs): NGET in England and Wales, Scottish Power Transmission (SPT) in the south of Scotland, and Scottish Hydro Electric Transmission (SHE-T) in the north of Scotland. We regulate the onshore TOs through the RIIO (Revenue = Incentives + Innovation + Outputs) price control. For offshore transmission, we appoint Offshore Transmission Owners (OFTOs) following competitive tenders.

1.3. The TOs are currently regulated under the RIIO-T1 price control, which runs for eight 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 TOs have received funding to complete pre-construction works and are able to seek construction funding for specific projects when they consider the need and costs for those projects has become more certain. When a project is brought forward by a TO, Ofgem considers the needs case for the project. If Ofgem approves the need for a project it will go on to consider the detailed project costs. Subsequently, if Ofgem concludes positively on all aspects of its assessment, it implements its final decision by proposing modifications to the TO's Electricity Transmission licence. Further detail of the SWW arrangements can be found in the relevant TO's licence and the SWW Guidance document.<sup>6</sup>

1.4. Our current SWW assessment process consists of three main stages:

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<sup>6</sup> <https://www.ofgem.gov.uk/publications-and-updates/guidance-strategic-wider-works-arrangements-electricity-transmission-price-control-riio-t1-0>

- Initial Needs Case<sup>7</sup> – Our opportunity to identify, at an early stage, any concerns we have with how the TO has selected the option it intends to seek planning approval for.
- Final Needs Case – Our process for assessing and deciding whether there is a confirmed need for the transmission project. This process includes a robust review of the TO’s cost-benefit analysis (CBA) for the project.
- Project Assessment – Our assessment and decision of the detailed cost estimates and delivery plan in order to set allowed expenditure and required deliverables for the transmission project. This stage sets cost allowances for the relevant project which will ultimately be passed on to consumers.

1.5. Ofgem considers whether the needs case, technical scope and timing of delivery of proposed projects are sufficiently well justified and represent long-term value for money for existing and future customers. As part of this exercise, Ofgem considers costs submitted by TOs in their Project Assessment submissions and, where appropriate, subject to consultation, Ofgem disallows unreasonable and unjustified costs.

1.6. It is the responsibility of the TOs to decide what information is necessary to make a robust case and to submit the same in support of their project.

1.7. A TO’s costs of delivering a project are added to its Regulatory Asset Base as total expenditure (totex) under RIIO. These costs are subject to the same sharing factor (c.50% for NGET), tax and inflation treatment, incentives, and cost of capital (ie financing costs) as the rest of the RIIO price control.

1.8. The prevailing regulatory arrangements (e.g. incentives, cost of capital etc) under each price control (e.g. RIIO1, RIIO-2, RIIO-3 etc) will apply to each SWW project.

### **Background on HSB**

1.9. HSB is an SWW project. HSB is NGET’s technical solution for connecting EDF’s Hinkley Point C (HPC) nuclear power station to the GB transmission network. NGET is contracted to

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<sup>7</sup> The HSB project did not have an Initial Needs Case assessment as the project had already been substantially developed by the time we introduced the Initial Needs Case stage into the SWW process.

connect the first HPC reactor by late 2024 ahead of EDF beginning commercial operation of the power station in 2025.<sup>8</sup> It will be one of the largest extensions of the transmission network in recent decades. As proposed by NGET, it comprises<sup>9</sup>:

- 49km of 400kV overhead lines – mostly using ‘T-Pylons’<sup>10</sup> rather than traditional lattice towers;
- 8.5km of underground cabling through the Mendip Hills Area of Outstanding Natural Beauty (AONB);
- construction of a new substation and a reconfiguration of two existing substations; and
- a reconfiguration of the local 132kV network.

1.10. Our understanding is that NGET is currently on schedule to meet its first contracted connection date at HPC of December 2024.

1.11. We published our decision to approve the ‘Final Needs Case’ for HSB in January 2018, following consultation.<sup>11</sup> That decision outlined that:

- 1.11.1. There is a clear technical need for the reinforcement. Without HSB, HPC would not be able to safely connect to the National Electricity Transmission System due to the lack of transmission capacity in the local area.
- 1.11.2. There is a clear economic need for the reinforcement. If HPC were unable to safely connect to the grid this could represent a significant cost to consumers. Overall, the proposed solution is likely to be in the interests of existing and future consumers.

1.12. The Final Needs Case decision was focused on the need for the project rather than costs, which are assessed at the Project Assessment stage. As such, it did not provide a

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<sup>8</sup> NGET is contracted to connect the second reactor by late 2025. EDF has recently announced updates to its delivery plans for HPC; however, these have not impacted on the contracted delivery dates for HSB.

<sup>9</sup> A map of the HSB route is included in Appendix 1.

<sup>10</sup> The Development Consent Order (DCO) for the HSB project requires the use of a new pylon design along the majority of the route in order to mitigate HSB’s visual impact on the local landscape. The new pylon design is referred to as a ‘T-Pylon’ due to its shape. A visual comparison to a regular lattice pylon is included in Annex 1.

<sup>11</sup> <https://www.ofgem.gov.uk/publications-and-updates/hinkley-seabank-decision-needs-case>

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detailed breakdown of the costs of the project. Our Final Needs Case decision did however outline some initial views on costs in particular areas. For example, in relation to overhead lines, we said that before we could be comfortable that consumers should fund the full cost differential between traditional overhead lines (using lattice towers) and T-Pylons, NGET should share with us the supporting analysis it used at the time of its planning application to:

1.12.1. come to its decision to propose T-Pylons and quantify the visual benefit that T-Pylons provide; or, failing that,

1.12.2. provide further analysis to support its argument that consumers are willing to fund the additional costs that the use of T-Pylons creates.

1.13. NGET submitted its Project Assessment submission to us in November 2018. We have assessed the detail of this submission, comparing it to relevant benchmarks where appropriate, and engaged with NGET to resolve any queries that have arisen.

### **Interactions with delivery model consultation**

1.14. Today we have opened a separate consultation on the proposed regulatory delivery model for the HSB project.<sup>12</sup> This follows a decision, published in July 2018 to implement the Competition Proxy Model (CPM) for delivery of the HSB project. In light of relevant considerations including updated analysis, we are consulting on a minded-to position of reverting to the existing SWW arrangements under RIIO-T1 for the delivery of HSB. We have factored this minded-to position into our assessment of capital cost allowances for HSB in this consultation, ie the cost assessment referred to in this consultation has been carried out on the basis of HSB being delivered under SWW.

1.15. After considering responses to this consultation and to our delivery model consultation, we will consider our decision on capital cost allowances for HSB at the same time as our decision on the delivery model. If we conclude that HSB should be delivered under CPM (rather than SWW) then we may need to consult again on potential changes to HSB capital cost allowances.

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<sup>12</sup> <https://www.ofgem.gov.uk/publications-and-updates/hinkley-seabank-consultation-our-updated-delivery-model-minded-position>

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1.16. Our proposal to revert to SWW for delivery of HSB is not discussed further in this consultation.

## Related publications

Hinkley - Seabank: Decision on the Needs Case, January 2018:

<https://www.ofgem.gov.uk/publications-and-updates/hinkley-seabank-decision-needs-case>

Hinkley - Seabank: Consultation on Final Needs Case and potential delivery models, August 2017: <https://www.ofgem.gov.uk/publications-and-updates/hinkley-seabank-consultation-final-needs-case-and-potential-delivery-models>

Strategic Wider Works Guidance, June 2013 (updated November 2017):

<https://www.ofgem.gov.uk/publications-and-updates/guidance-strategic-wider-works-arrangements-electricity-transmission-price-control-riio-t1-0>

## How to respond

1.17. 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.

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

1.19. We will publish non-confidential responses on our website at [www.ofgem.gov.uk/consultations](http://www.ofgem.gov.uk/consultations).

## Your response, data and confidentiality

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

1.21. If you wish us to keep part of your response confidential, please clearly mark those parts of your response that you *do* wish to be kept confidential and those that you *do not*

wish to be kept confidential. Please put the confidential material in a separate appendix to your response. If necessary, we'll get in touch with you to discuss which parts of the information in your response should be kept confidential, and which can be published. We might ask for reasons why.

1.22. If the information you give in your response contains personal data under the General Data Protection Regulation 2016/379 (GDPR) and domestic legislation on data protection, the Gas and Electricity Markets Authority will be the data controller for the purposes of GDPR. Ofgem uses the information in responses in performing its statutory functions and in accordance with section 105 of the Utilities Act 2000. Please refer to our Privacy Notice on consultations, see Appendix 4.

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

## General feedback

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

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

Please send any general feedback comments to [stakeholders@ofgem.gov.uk](mailto:stakeholders@ofgem.gov.uk)

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[Ofgem.gov.uk/consultations](https://www.ofgem.gov.uk/consultations).

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## 2. Proposed capital cost allowances for HSB

### Section summary

This section details our views on each of the main cost areas in NGET's Project Assessment funding request, including where we are minded to make adjustments.

### Questions

**Question 1:** Regarding T-Pylons, do you agree with our initial views in relation to:

- a) NGET's approach to proposing T-Pylons in its planning application?
- b) Disallowing £11.3m of T-Pylon 'development costs'?
- c) Allowing £12.3m of additional costs for T-Pylons along the route?

**Question 2:** Do you agree with our proposals on how to treat high impact, low probability and difficult to quantify risks?

**Question 3:** Do you have any views on our proposed treatment of other costs not covered in questions 1 and 2?

2.1. The table below summarises our proposed adjustments to NGET's cost allowances for HSB. We consider each of these proposed adjustments in this section.

**Table 1 – Summary of proposed HSB allowances**

Asset / activity	Submitted cost (£m)	Provisional Adjustment (£m)	Provisional Allowance (£m)
Tendered costs (including undergrounding, overhead lines and Sandford substation)	376.9	-12.3	364.6
Untendered costs (including Melksham reconfiguration, Bridgwater Tee, Seabank substation and unlet works)	28.7	-0.1	28.6
WPD managed works	68.0	-3.2	64.8

Asset / activity	Submitted cost (£m)	Provisional Adjustment (£m)	Provisional Allowance (£m)
Project Management	51.8	-10.9	40.9
Land, DCO, Safety	74.4	-2.2	72.2
Construction spend-to-date <sup>13</sup>	44.0	-11.3	32.7
Contingency / risk	73.0	-39.8	33.2
<b>Total</b>	<b>716.8</b>	<b>-79.8</b>	<b>637.0</b>

## Overhead lines & T-Pylons

2.2. NGET's HSB project will involve the construction of 49km of overhead lines. NGET has stated that the majority (38km) of the route will use T-Pylons (rather than traditional lattice towers), in accordance with NGET's planning consent for HSB. NGET considers that the use of T-Pylons increases the cost of the project by approximately £35.9m, relative to if only lattice towers were used.

### T-Pylons: development costs

2.3. In its Project Assessment submission NGET included £11.3m of costs relating to the development of T-Pylons. We do not consider that the costs for the development of T-Pylons are justified. We consider that these costs are outside the scope of the SWW mechanism, as they are not specific to the delivery of HSB.

2.4. We are not minded to allow the £11.3m development costs. Our view is that NGET could have sought funding for these costs under the RIIO-T1 mechanisms aimed at delivering innovation (or the mechanisms in TPCR4, the price control preceding RIIO-T1). We do not think it is appropriate to use the SWW framework to fund innovation spend and bypass the governance we put in place related to innovation. Nor do we consider it appropriate to use project-specific allowances to fund innovation that may be utilised elsewhere on the network.

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<sup>13</sup> This includes £11.3m of 'T-Pylon development costs'

### **T-Pylons: additional construction and installation costs**

2.5. The remaining £24.6m of the £35.9m of additional costs submitted by NGET for T-Pylons (relative to if only lattice towers were used) relates to additional construction and installation of the pylons.

2.6. We do not design new transmission projects, plan how they should be built, or decide which routes they should take. This is the responsibility of the relevant TO and the relevant planning authorities. For this reason, we do not prescribe the detailed location of individual lines and pylons nor take a view on what additional visual mitigation measures might be required. Our role is to review the TO's justifications for such decisions where these affect the cost of the project to consumers and determine whether the associated costs are economic and efficient.

2.7. As explained further below, we are not satisfied that all the additional construction and installation costs for T-Pylons are sufficiently well justified or represent value for money for consumers, and we are therefore minded to allow only £12.3m of those costs.

#### Background: Final Needs Case

2.8. NGET set out in its Final Needs Case submission for HSB that it considered T-Pylons have a lower visual impact than lattice towers. It provided evidence which it considered confirmed that the use of T-Pylons significantly reduced the risk of its planning consent being rejected relative to an application that used only lattice towers.

2.9. Our January 2018 decision on the Final Needs Case for HSB<sup>14</sup> set out that:

*"We remain of the view that before we can be comfortable that consumers should fund the full cost differential<sup>15</sup> between lattice towers and T-Pylons, NGET needs to share with us the supporting analysis it used at the time of its planning application to:*

- *come to its decision to propose T-Pylons; and*

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<sup>14</sup> [https://www.ofgem.gov.uk/system/files/docs/2018/01/decision\\_on\\_hsb\\_final\\_needs\\_case.pdf](https://www.ofgem.gov.uk/system/files/docs/2018/01/decision_on_hsb_final_needs_case.pdf); bottom of page 2

<sup>15</sup> At the time this cost differential was estimated as c.£26m

- *quantify the visual benefit that T-Pylons provide.*

*Failing this, it would need to provide further analysis to support its argument that consumers are willing to fund these additional costs."*

2.10. With its December 2018 Project Assessment submission, NGET provided:

2.10.1. legal advice in support of its decision to include T-Pylons in its planning application; and

2.10.2. a visual enhancement acceptability study (discussed at paragraph 2.24).

#### Our assessment

2.11. In line with the provisions in relation to SWW projects in NGET's licence<sup>16</sup>, we have considered whether NGET's submissions demonstrate that the costs associated with T-Pylons are sufficiently well justified and represent long term value for money for existing and future consumers. As explained further below, we do not consider that NGET's submitted T-Pylon costs have been sufficiently well justified and we do not consider that allowing NGET to recover the full submitted costs would represent long term value for money for consumers.

2.12. Overall we consider that, ahead of NGET's submission of its planning application, it appears that NGET neither:

2.12.1. gave sufficient consideration to the costs and benefits that T-Pylons might provide along all or parts of the HSB route; nor

2.12.2. carried out a sufficient assessment of the risks of not using T-Pylons or of ways such risks might have been mitigated (such as putting forward alternative proposals in the planning application and prior consultation).

2.13. We also have concerns with the consumer willingness to pay studies put forward by NGET as additional evidence to support the additional costs of T-Pylons.

2.14. We consider each of the above points below.

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<sup>16</sup> 6I.40 of NGET's licence

*Consideration of costs and benefits*

2.15. During our assessment, NGET has not provided us with robust analysis of the costs and benefits that T-Pylons might provide relative to lattice towers along the HSB route. NGET has also failed to demonstrate that such an assessment occurred either prior to or during the planning consent submission. We have not seen evidence of sufficient balancing of additional costs for T-Pylons against limited improvements in visual impact.

2.16. The overall conclusion of NGET's Pylon Design Options Report (PDOR)<sup>17</sup>, carried out before the formal planning consent submission, was that "the T-Pylon design was found to be marginally preferable in terms of landscape and visual amenity appraisals for the majority of the Sections". The assessment of the PDOR carried out by our consultants (TNEI – carried out at the HSB Needs Case stage) was that adequate process had been followed and a reasonable case had been made that deploying T-Pylons reduces the landscape and visual effects of the project, but the difference between T-Pylons and lattice towers was considered to be limited.

2.17. NGET has not provided us with robust analysis of the costs and benefits that T-Pylons might provide along different parts of the route, especially those areas that are located some distance from the Mendip Hills AONB. We note that in contrast to the section of the route that passes through the AONB, where we propose to approve visual mitigation costs (associated with underground cabling), none of the route that uses T-Pylons passes through the Mendip Hills AONB. Some portions of the route that use T-Pylons are many kilometres from the AONB.

2.18. NGET's PDOR set out that there was no significant difference in cost estimates between the T-Pylon and lattice tower design options. Costs submitted by NGET at the Final Needs Case stage and Project Assessment show that this is not the case. We consider that it would not have been unreasonable for NGET to factor into its analysis, at the time of the PDOR, the possibility that cost differences between T-Pylons and lattice tower design options may end up being significant, particularly given that T-Pylons represented an untested technology at early stages of development. After NGET's estimate of the cost difference between T-Pylons and lattice towers increased (at planning consent submission), it does not appear that NGET

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<sup>17</sup> National Grid undertook an appraisal to consider the relative merits of the T-Pylon and conventional steel lattice towers for the proposed Hinkley-Seabank connection – this was published in August 2013 as the Pylon Design Options Report (PDOR): <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN020001/EN020001-000776-5.2.2.6%20ES%20Project%20Need%20and%20Alternatives%20Appendix%20K.pdf>

reconsidered its conclusions, based on the PDOR, regarding how much of the route to use T-Pylons on.

2.19. As set out earlier, Ofgem's role is to assess the costs of SWW projects such as HSB to decide whether the needs case, technical scope and timing of delivery are sufficiently well justified and represent long term value for money for existing and future customers. In this context, we must be satisfied that NGET has balanced its duties to achieve what may be environmentally desirable and what is in the interests of consumers in providing an efficient network. We consider that the aspects referred to above do not provide us with sufficient confidence that the full additional costs of T-Pylons on HSB have been sufficiently well justified.

*Assessment of the risks of not using T-Pylons or consideration of alternative ways such risks might have been mitigated*

2.20. We acknowledge that NGET's actions in proposing that HSB be constructed using T-Pylons for the majority of the route may be expected to have reduced the risk of planning refusal. It is always possible to remove or reduce the risk of objection and refusal by offering greater mitigation. However, in accordance with its duties, we consider that it would have been reasonable for NGET to consider whether costs could be reduced without jeopardising delivery of HSB to an unacceptable extent.

2.21. Further to 'Consideration of costs and benefits' (above), NGET does not appear to have appropriately assessed the risk, at the time of its planning application, of whether a case could be made that T-Pylons could have been used on less of the route than it proposed, or whether the planning application could have included lattice towers as an alternative option to T-Pylons.

2.22. In our minded-to consultation on the Final Needs Case for HSB we previously set out that NGET had failed to provide robust evidence that not using T-Pylons would have increased the risk of planning consent not being granted. This was interpreted by NGET and some other respondents to that consultation as a requirement from Ofgem that NGET should have demonstrated that planning permission for a scheme without T-Pylons would have been refused. This is not our position. We have considered whether NGET has acted reasonably in relation to T-Pylons in light of any risk of planning consent being rejected and the impact of such a rejection.

### *Consumer willingness to pay*

2.23. NGET submitted a willingness to pay study to Ofgem, with its Final Needs Case submission, which showed a consumer willingness to pay for the visual benefits of T-Pylons of £12m - £39m<sup>18</sup>. As referred to in our Final Needs Case decision, we agreed with the views of our consultants at the time (TNEI), that “the upper bound figure appears to be high” and that “more robust evidence could be provided in future”.<sup>19</sup>

2.24. As part of its Project Assessment submission, NGET provided a visual enhancement acceptability study which estimates a 62% acceptability amongst GB consumers for the additional costs of T-Pylons on HSB. We are not satisfied, however, that the results of this study are robust, due to concerns regarding the way it was carried out. For example, the study repeatedly conflated use of T-Pylons on HSB with mitigation of visual impact in National Parks and AONBs. Examples include asking survey participants “*What do you think of the idea to replace steel lattice pylons with T-Pylons in AONB and National Parks?*”, and an illustration map that wrongly suggests the HSB project lies within Exmoor National Park.

2.25. Based on the consumer acceptability and willingness to pay evidence we have reviewed, we are satisfied that consumers may be willing to pay c.£12m, on top of the costs of lattice towers, for the visual benefit provided by T-Pylons (ie. the lowest figure in the willingness to pay study referenced in paragraph 2.23 above).

### Conclusion: proposed allowed costs for T-pylons construction and installation

2.26. For the reasons set out above we are not satisfied that the additional £24.6m of costs for T-Pylons proposed by NGET are sufficiently well justified or represent value for money for consumers. As a result, we are minded not to provide NGET with the full allowance of requested costs.

2.27. We propose to provide NGET with half (£12.3m) of the additional costs that it estimates T-Pylons add to the overall project cost. We note that this aligns with the £12m

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<sup>18</sup> In 2017 prices.

<sup>19</sup> Page 38: [https://www.ofgem.gov.uk/system/files/docs/2017/08/hsb\\_tnei\\_report\\_redacted.pdf](https://www.ofgem.gov.uk/system/files/docs/2017/08/hsb_tnei_report_redacted.pdf)

value that NGET has demonstrated that consumers may be willing to pay for visual mitigation on parts of the HSB route using T-Pylons.

## Risk costs

2.28. Within its Project Assessment submission NGET included costs of £73m relating to project risks during construction. We propose to allow significantly reduced up-front cost allowances for risk of £33.2m (a reduction of £39.8m on the figure requested), to deliver a fairer outcome for consumers.

### High impact, low probability (HILP) and difficult to quantify risks

2.29. We consider that risks which are highly unlikely to occur, but that would have a high cost impact if they did, and certain risks that are difficult to quantify up-front, should not be included in the cost allowances we set at Project Assessment. We consider that if these risks occur, they should be considered for funding through a specific and targeted cost reopener mechanism. This approach, which reduces the risk pot sought by NGET by c.£27m, serves two purposes:

- 2.29.1. It prevents consumers unnecessarily paying for risks which are highly unlikely to eventuate or are difficult to robustly quantify before they occur.
- 2.29.2. It provides NGET with comfort that if a high cost risk, that is beyond NGET's control, occurs, it would be funded for the efficient costs that it incurs relating to that risk.

2.30. NGET's licence already includes a Cost and Output Adjusting Event (COAE) provision within the SWW condition that allows it to recover costs associated with some HILP risks for an SWW project. To implement the above proposed approach for HSB, we are minded to propose modifications to the existing COAE provision to cover the following:

- 2.30.1. In addition to risks which the COAE provision already covers, such as extreme weather, the modified COAE provision would include other specific 'qualifying' risks we have identified for HSB that it would be inefficient to set allowances for now. These are listed in Appendix 2, Table A2.1.
- 2.30.2. Because some of the risks we are proposing to include within the scope of the modified COAE are likely to be of a lower value than the risks that were

envisaged when the COAE provision was drafted, we also intend to modify the provision to reduce the COAE threshold for HSB from 20% of total project capex, to 10%. This is consistent with the 10% COAE threshold set on NGET/SPT's Western HVDC project and is consistent in overall capital cost terms with SHE-T's Caithness-Moray project, where we set a 5% COAE threshold for a c.£1bn project.

2.31. The effect of these changes would be, that if one or more relevant qualifying risks occurred during the construction period for HSB, and the total cumulative cost impact was 10% or above total project capital cost allowance, NGET would receive full funding for its efficient costs in relation to addressing those risks. If the risks occurred but the 10% cost threshold was not met, NGET would need to use its general risk allowance to cover the risk costs, and any overspend would be treated through the RIIO totex sharing factor (i.e. split between NGET and consumers).

#### **Other risk areas**

2.32. We are intending to disallow a further c.£12m of risk costs which we consider are 'ineligible' for funding. These are risks which we consider are either covered elsewhere in NGET's capital cost allowances (i.e. included in contracts) or are risks which relate to NGET or contractor error, which we consider consumers should not fund. The highest value of these risks are listed in Appendix 2, Table A2.2.

2.33. A large portion (c.£5m) of this disallowance relates to risk costs submitted by NGET in its Project Assessment submission relating to works on the network of the local Distribution Network Operator (DNO), Western Power Distribution (WPD). The WPD works are considered further in the next section. Our proposed risk costs disallowances for these works primarily relate to risk costs which NGET included in its Project Assessment submission to reflect that the scope of the works on the network of WPD is uncertain. We do not consider that NGET should be funded for uncertainty over costs which:

- 2.33.1. because of the uncertain scope of works, are as likely to be too high as they are to be too low; and
- 2.33.2. are uncertain because of an NGET decision to defer completion of the works to a different regulated company (WPD), and to enter into an agreement with that company which may provide NGET with little ability to influence its expenditure (see paragraph 2.35.2 below).

## WPD costs

2.34. WPD will undertake some of the HSB works on behalf of NGET because these works relate to amendments and additions to WPD's existing network in the area. In 2011, WPD and NGET entered into a contractual arrangement under which NGET would ensure that WPD was funded to complete the works. NGET has submitted, in its Project Assessment submission, costs of £68m<sup>20</sup> in relation to works that WPD will complete on its behalf on HSB.

2.35. There are two reasons that it is difficult to fund these submitted costs through up-front allowances:

2.35.1. Some of the works have not yet been tendered, because they will not begin until some years into the overall schedule, and the scope remains relatively uncertain.

2.35.2. Because WPD is completing the works, and has agreed with NGET that it will be fully funded for all its associated costs, NGET may have a limited ability to influence WPD's behaviour (i.e. keep costs down).

## Sharing factor

2.36. During our engagement with NGET on its Project Assessment submission, it suggested that any over or underspends on its submitted WPD costs should be subject to a different sharing factor to the rest of the project (10%-20% instead of c.50%). The result of this would be that consumers would receive 80%-90% of any savings delivered against the allowances, but also that consumers would pay 80%-90% of any cost overruns. This would prevent NGET receiving windfall gains/losses in the event that relatively uncertain up front cost allowances were over or under spent.

2.37. We do not consider it would provide long-term value for money for consumers to implement NGET's proposal to set a different sharing factor for the WPD costs. We consider that having multiple sharing factors would give rise to practical difficulties and mixed incentives on this project:

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<sup>20</sup> In addition to the £9m of WPD related risk costs referenced in paragraph 2.33.

2.37.1. In RIIO-T1 there is a single sharing factor across relevant costs captured by the price control. Our RIIO-2 sector specific methodology decision<sup>21</sup> set out that we intend to apply a single blended sharing factor across relevant costs captured by the price control to reflect the balance between more certain and less certain costs.

2.37.2. Applying different sharing factors to costs within the same price control may create a cost for consumers by incentivising the company to move cost overruns in one area to the cost area with a smaller sharing factor.

2.37.3. It may be practically challenging to implement multiple sharing factors through the price control financial mechanisms.

2.38. As such, in accordance with the existing licence conditions, we propose that the allowances for NGET's WPD costs (£64.8m, as set out in Table 1) will be subject to the prevailing RIIO sharing factor (this is currently c.50% for NGET in RIIO-T1).

### **Cost disallowances**

2.39. We are minded to disallow c.£3.2m of the £68m of costs submitted by NGET in its Project Assessment submission for costs associated with the WPD works. This disallowance is as a result of our benchmarking exercise.<sup>22</sup>

2.40. We consider that the combination of £3.2m disallowance referenced above, the separate risk cost reduction discussed in paragraph 2.33 and the standard sharing factor provides an appropriate balance of risk between NGET and consumers.

### **Project Management costs**

2.41. NGET submitted an estimate of £51.8m for project management costs. The estimate consists of direct costs, related to NGET staff working on HSB and indirect costs, related to

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<sup>21</sup> <https://www.ofgem.gov.uk/publications-and-updates/riio-2-sector-specific-methodology-decision>

<sup>22</sup> By 'benchmarking' we mean comparison of costs in the project under consideration (in this case HSB) against costs observed in other projects (including in this case cost allowances set out in RIIO-1). This comparison is carried out on the basis of cost areas or categories (eg overhead line, project management).

additional resources from NGET's central function, expenses and taxation, regulatory team and wider electricity transmission operator costs.

2.42. We consider NGET's direct costs are sufficiently justified in most areas. However, we are minded to reduce the peak resourcing profile slightly (i.e. the amount of resources working on HSB at the busiest times). For example, NGET requested funding for three Lead Project Managers in addition to the two Senior Project Managers working on the project at peak. NGET did not provide a robust justification for this requirement. Hence we adjusted the number of Lead Project Managers from three to two, so that it aligned more appropriately with our benchmarks. Similarly, we adjusted the numbers of the project engineers and projects planners working on HSB at peak. We have also taken into account the consultancy work estimated by NGET in some areas, which will support HSB direct staff. For example, NGET intends to engage an external affairs consultancy which will work in parallel with its own staff. As a consequence, we are minded to disallow £2.2m of direct project management costs.

2.43. The use of central function (indirect) resources usually presents a cost efficient measure for large infrastructure projects. However, we do not consider all of NGET's indirect resourcing costs are sufficiently justified. In our view, the project has sufficient direct resources to cover the project controls, contracts management and health, safety and environmental activities. The utilisation of the central function resources for these particular aspects of the scope presents, in our view, an inefficient resource duplication. Also we consider that some of NGET's estimated expenses and taxation costs are not justified because the number of employees underpinning the estimates are high. Therefore, we are minded to disallow c.£8.7m of the indirect project management costs.

## **Other areas where we are minded to disallow costs**

### **Land, DCO, Safety**

2.44. Early on in our assessment process we challenged some of NGET's assumptions regarding land compensation and legal fees. As a result of this challenge, NGET revised its assumptions. Following NGET's revision we are minded to disallow £2.2m of these costs.

### **Unlet works**

2.45. We are minded to disallow £0.1m in the area of unlet costs. This reduction relates to an unlet telecommunications contract where NGET's early estimate assumed a 30% cost contingency, which we have reduced to 10%.

## **Areas where we are not minded to disallow costs**

2.46. Our assessment has not revealed any material concerns with the proposed costs in the following areas. We consider that the costs proposed by NGET in the following areas appear to be sufficiently well justified:

- 400kV underground cable through the Mendip Hills AONB;
- Sandford substation construction;
- 132kV underground cables;
- Melksham substation reconfiguration;
- Seabank substation construction; and
- Bridgwater Tee.

### **3. Next steps**

3.1. Having considered responses to this consultation, we intend to publish our decision on delivery model and capital cost allowances for HSB in early 2020.

3.2. Following our decision referred to above, we will consult on the relevant changes to NGET's licence to implement our decision.

## Appendices

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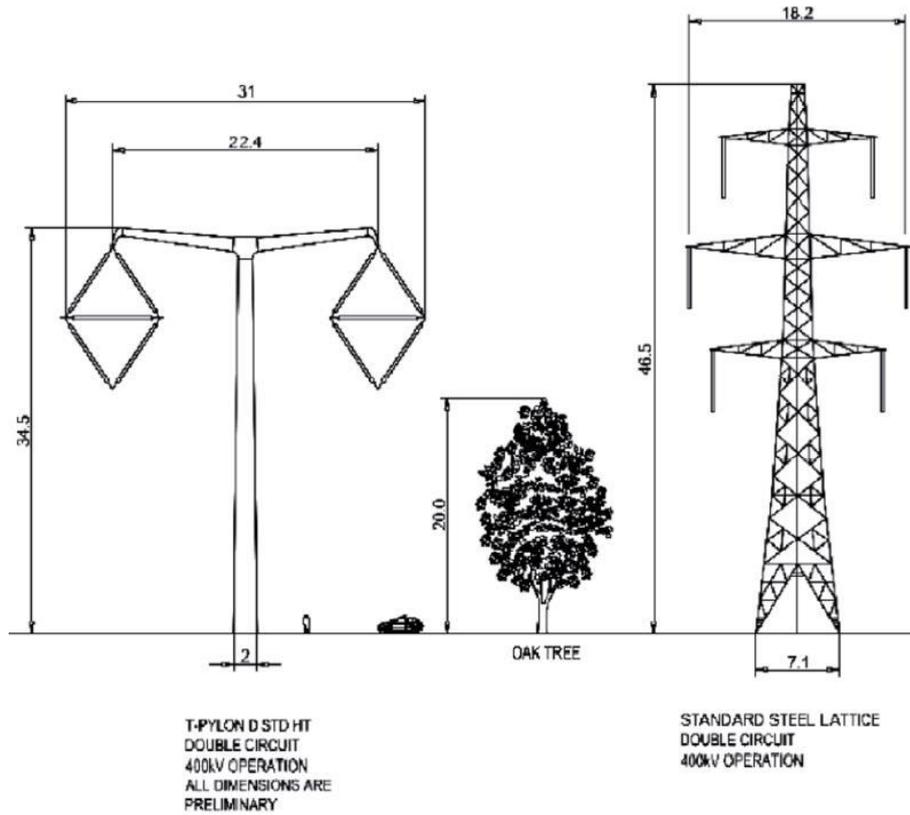
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## Appendix 1 – Map of the HSB route and image of a T-Pylon

Figure A1.1: Map of the HSB route (map provided by NGET with submission)



Figure A1.2: Visual representation of T-Pylon vs. regular lattice tower



Source: Page 371 - <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN020001/EN020001-000776-5.2.2.6%20ES%20Project%20Need%20and%20Alternatives%20Appendix%202K.pdf>

## Appendix 2 - Additional detail on risk costs

### Treatment of High impact, low probability (HILP), and difficult to quantify risks

1.1. As referred to in paragraph 2.30 of the main document, we are minded to propose modifications to NGET’s licence, specifically the Cost and Output Adjusting Event (COAE) provision of the SWW condition. For reference, paragraph 6I.13 of NGET’s licence is currently worded as follows:

6I.13 *For the purposes of this condition, a COAE arises where the Authority is satisfied that:*

- (a) *a pre-defined exceptional event as defined in paragraph 6I.14 of this condition has occurred that the licensee could not have reasonably foreseen and/or economically or efficiently planned a contingency for;*
- (b) *the single pre-defined exceptional event has resulted in a change to the scope of construction works required to Deliver the output and will cause expenditure relative to the relevant total Allowed Expenditure specified in Table 5 of this condition to be incurred or saved and that the difference before the application of the Totex Incentive Strength Rate will be no less than:*
  - (i) *20% for a Strategic Wider Works Output (in nominal values); or*
  - (ii) *10% in the case of the WHVDC Output (in nominal values);*
- (a) *the difference in expenditure:*
  - (i) *is expected to be efficiently incurred or saved; and*
  - (ii) *cannot otherwise be recovered under the revenue allowances provided by this condition or by or under any other provision within this licence;*

6I.14 *In paragraph 6I.13, "a pre-defined exceptional event" is limited to the following:*

- (a) *extreme weather events (meaning a worse than 1 in 10 probability for land-based activity, and equivalent provisions for marine-based activity);*
- (b) *the imposition of additional terms or conditions of any statutory consent, approval or permission (including but not limited to planning consent); or*
- (c) *unforeseen ground or sea-bed conditions.*

1.2. Table A2.1 below details the high impact, low probability (HILP) and difficult to quantify risks that we are minded to include within the scope of an amended COAE for HSB.

**Table A2.1: HILP and difficult to quantify risks to be included within scope of COAE**

<b>Risk</b>	<b>Details</b>
Archaeology - Extended works	Risk that a significant archaeological find, beyond the risk costs already accounted for, causes a material delay to project delivery, causing an increase to costs.

Brexit - Market Condition changes post Ofgem decision	Adverse trade conditions post-Brexit including high trade tariffs and adverse exchange rates affecting major equipment and cable system purchase. Potential labour issues.
Hinkley Point C cancellation or delay	EDF delays the date for generating power at Hinkley C leading to delayed completion date for the HSB and consequential re-programming costs.
Extreme Weather / widespread flooding	Compensation event for delay and / or additional costs directly attributable to extent of extreme weather above 1-in-10 year value.
Farm Livestock Epizootic - Regional/National	Farm livestock epizootic occurs during the construction period. Causes closure of sites, considerable delay to procurement and construction schedules. Cost of demobilisation / remobilisation. Cost of resultant bio-security measures enforced by authorities.
Legal challenge to procurement	Delay to programme award. Cost of re-running procurement process.
Protestor Action on/near NGET sites	Protestor action on NGET sites for a period extending beyond 14 days. Legal fees associated with removal of protestors and additional security or policing. Delay to works.
Supplier Bankruptcy/ insolvency	Contractor, supplier or manufacturer goes into liquidation during project delivery phase.
Terrorism	Disruption to works resulting from threat of, or actual, terrorist attack on Hinkley Point nuclear site or on HSB work sites. Schedule delay, significant disruptions; additional work, increased cost to NG following incident

### Treatment of risks identified as ineligible for funding

1.3. Table A2.2 below details the ten highest value risks that we are disallowing.

**Table A2.2: Ten highest value risks identified as ineligible for funding**

Risk	Cost	Summary of Ofgem view
WPD Estimating Uncertainty - underground cabling	£2,224,280	Do not agree that NGET should be funded for uncertainty relating to costs that have not been tendered yet.
Access and Accommodation -	£1,012,149	Baseline allowance covers funding for accommodation. Slight changes to pylon/works

changes to current plan and schedule		location seems unlikely to alter fundamental accommodation plans.
Land Reinstatement - after works complete	£883,973	Baseline allowance covers funding for landscaping, and land reinstatement costs included comprehensively in contracts.
Industrial Site Adjacency - challenges of working in industrial Avonmouth area	£883,973	Baseline allowance covers compensation and community relations, which could be used for this purpose. Furthermore, we consider that the contractor should already be well prepared for work in the area, and the challenges that work will present.
Site contamination - WPD works	£846,819	All risks relating to site contamination across the project have been amalgamated into one risk.
NGET Technical / SAP Resources - shortage of resource	£835,399	This is a risk that is within NGET's control, and as such NGET should bear costs if it eventuates.
WPD Estimating Uncertainty - overhead lines	£531,398	Do not agree that NGET should be funded for uncertainty relating to costs that have not been tendered yet.
Delays to discharge of Development Consent Order requirements by Local Authorities	£501,239	All risks relating to the Development Consent Order across the project have been amalgamated into one risk.
Landowner Lockout - overhead line route	£471,452	All risks relating to landowner lockout across the project have been amalgamated into one risk.
WPD Estimating Uncertainty - SURF works	£337,396	Do not agree that NGET should be funded for uncertainty relating to costs that have not been tendered yet.

## Appendix 3 – Privacy notice on consultations

### Personal data

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

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

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

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

### 3. With whom we will be sharing your personal data

N/A

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

Your personal data will be held for 1 year.

### 5. Your rights

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

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

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

**6. Your personal data will not be sent overseas** (Note that this cannot be claimed if using Survey Monkey for the consultation as their servers are in the US. In that case use “the Data you provide directly will be stored by Survey Monkey on their servers in the United States. We have taken all necessary precautions to ensure that your rights in term of data protection will not be compromised by this”.

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

**8. Your personal data will be stored in a secure government IT system.** (If using a third party system such as Survey Monkey to gather the data, you will need to state clearly at which point the data will be moved from there to our internal systems.)

**9. More information** For more information on how Ofgem processes your data, click on the link to our “[Ofgem privacy promise](#)”.