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Dear James,

Consultation on Ofgem's assessment of capital costs for the Hinkley–Seabank electricity transmission project

This response is provided on behalf of National Grid Electricity Transmission (NGET) in our role as Transmission Owner in England and Wales. As the party delivering the project we welcome the opportunity to respond to this consultation on the assessment of the efficient capital costs of delivering the Hinkley-Seabank Strategic Wider Works (SWW) transmission project.

We have presented strong evidence for the forecast costs set out in our November 2018 SWW Project Assessment submission, and provided support for these in Ofgem's subsequent assessment. We have already made significant contractual and commercial commitments to deliver the project consistent with our licence duties. Assessing committed costs ex post presents a considerable regulatory risk. We do not agree with several of Ofgem's conclusions in the consultation, and the proposed allowance is not sufficient to cover the efficient costs of the project.

This response sets out our detailed concerns. In summary, the proposed approach fails to adequately deal with the matters below.

T-Pylon funding

The proposed approach to disallowing £23.6m of the costs of using T-Pylons is fundamentally flawed, and fails to take account of all the evidence presented to date. We carefully considered the benefits and impacts of using T-Pylons or conventional steel lattice pylons during the public consultation process in 2013. A recurring theme at all stages of consultation on the project was a desire of consultees for the project to be entirely underground or subsea, at significantly greater cost. The process followed was considered adequate by both Ofgem's consultants on the Final Needs Case and the Secretary of State's examining authority.

There was not a significant cost differential at the time the key decisions were taken, so there was no reason to weigh the additional costs against the benefits of T-Pylons at this point. The higher costs of T-Pylons became apparent shortly before our planning application was made in May 2014. Re-designing to use steel lattice pylons instead of T-Pylons, and re-consulting on the new proposals, would have added at least 12 months to the programme. It was clear and obvious that any delay would have resulted in material additional costs to consumers significantly exceeding the cost differential between T-Pylon and steel lattice pylons.

As we have demonstrated in our submitted evidence, there would have been a very high risk that consent would have been refused if we had, contrary to our own studies and consultation feedback, decided to use steel lattice pylons instead of T-Pylons. Such a refusal would have delayed the project by several years.

Ofgem suggests that we might have used proximity to the Mendip Hills AONB as a determining factor in our decisions, or pursued two different projects through the planning process. This appears to be a fundamental misunderstanding of how the planning process for nationally significant infrastructure operates, both in how landscape and visual affects should be considered, and in the ability to promote alternatives through the process. Harm to the landscape must be considered regardless of whether our proposals pass through designated areas. The onus is on the developer to do this through the public consultation and environmental assessment process. It is not possible to apply for two different schemes to leave the decision to the Secretary of State. Ofgem's approach raises serious concerns regarding the legitimacy of the Government's planning process, and introduce a difficult precedent for future projects.

In setting only a partial allowance of £12.3m, Ofgem has used an unnecessarily conservative approach to assessing consumer willingness to pay. New research undertaken for RIIO-T2 supports previous research showing that consumers have a high willingness to pay for mitigation in all rural areas, regardless of landscape designations. Our recent acceptability testing research, showing that nearly two thirds (62%) of consumers find the additional expenditure on T-Pylon, is acceptable and robust. Sufficient consumer willingness to pay therefore exists to cover the full cost differential.

T-Pylon development work significantly reduced the tendered costs of the T-Pylons by giving our supply base confidence that T-Pylon was deliverable, reliable and safe to use on the project. It would not have been appropriate to seek RIIO-T1 innovation funding for the costs specific to Hinkley-Seabank. One of the key principles of the innovation mechanisms is that projects should only receive funding if they cannot be funded through other areas of the price control. Given that the project-specific costs are part of the Hinkley-Seabank project, we reasonably expect to recover this expenditure through the SWW Hinkley-Seabank allowance.

The approach is at odds with the principles of RIIO. There will always be further benefits for future projects from project-specific innovation. The price control framework is fundamentally structured to encourage us to innovate across our all activities, with the innovation funding mechanisms only focused where innovation would otherwise not be funded.

Overall, the use of T-Pylons was an efficient and justified means of managing the risk of refusal of planning permission, mitigating delay risk and avoiding greater costs through more costly mitigation (e.g. undergrounding). Ofgem should therefore fund the full costs for T-Pylon development and construction on the Hinkley-Seabank project. Failure to recognise these efficient costs would set an unwelcome regulatory precedent, leading to future costs to consumers.

Treatment of risk

The proposed approach to covering 'high impact / low probability' and 'difficult to quantify' risks would be inconsistent with good regulatory principles, failing to provide a contingency for likely costs. A cumulative 10% Cost and Output Adjusting Event (COAE) materiality threshold for the qualifying risks is proposed, with no upfront allowance for these risks.

Although some of the risks are low probability, in combination there is a high likelihood of significant costs being incurred at a level still not meeting the 10% (£63.7m) threshold, as the P50 value of these COAE risks is £34.8m. This would mean that we would bear significant risk outside of our control with no commensurate allowance. We would not have full coverage for the most likely outcome. This is clearly inconsistent with Ofgem's stated principles, which are that 1) consumers should not

unnecessarily pay for risks which are highly unlikely to eventuate or are difficult to robustly quantify before they occur; and 2) we should have comfort that if a high impact risk, beyond our control, occurs, it will be funded for efficient costs.

The proposed treatment of risks that are funded ex ante is also unacceptable. Ofgem considers that some important risks (e.g. WPD risks and land and compensation related risks) are ineligible. Our modelling shows there is only a 6% chance of not exceeding the £33.2m proposed by Ofgem. The most likely outcome would therefore be a significant loss.

Overall, the proposed risk treatment would expose us to an unacceptable degree of risk. The arrangements would also not be consistent with the principle that price control settlements should be calibrated so that baseline returns are consistent with the level of risk network companies are exposed to. Ofgem has signalled that RIIO-T2 will be a low risk and low return price control. Exposing us to unfunded risk is not consistent with that approach. This would create an unwelcome precedent and an incentive that is not in the long-term interests of consumers. We would welcome a discussion on alternative approaches, but failing to fund a broad range of likely costs is not acceptable.

The identified COAE 'qualifying risks' should either be:

- 1) funded fully ex ante at their P50 values, with a materiality threshold to ensure that low probability but high magnitude outcomes would not expose us to additional costs of high materiality (and linked to the broader price control risk exposure) – we consider a 5% threshold would be appropriate; or
- 2) excluded from the upfront contingency and be subject to COAE arrangements, but with no threshold, or a low enough threshold to ensure that exposure is not material, linked to the cost of running the assessment process (i.e. transactional cost).

WPD funding

Ofgem proposes to disallow a significant portion of the estimated P50 costs of necessary works to the WPD network, applying to both base costs and risk. This is because Ofgem considers the scope to be uncertain, the commercial arrangements in place mean we will not be in full control of WPD's costs, and the estimates are as likely to be too high as too low.

We fundamentally disagree with a regulatory settlement that means we bear the risks associated with third party regulated DNO costs based on an ex ante allowance that, from the outset, is significantly lower than the estimated most likely outturn costs. This is not a viable or sustainable proposal.

The commercial arrangements we have in place allow us control over demonstrably reasonable costs. The arrangement between NGET and WPD follows normal business practice for diverting assets of other regulated infrastructure owners, which typically expect the party requiring the works to fully meet the costs of the party that needs to carry out the works.

Whilst some works are not tendered, and are therefore inherently subject to some degree of uncertainty, the P50 estimate provided in the submission is robust. The scope of those works awaiting tender is relatively fixed (e.g. the general routeing, length etc. of cables is fixed by the design process that was necessary to seek planning permission for the works). More than half of the total base costs are not awaiting tender, and over a third of the estimated costs are already spent. Therefore, providing a P50 allowance would not expose consumers to significant risk, and would represent an appropriately balanced allowance.

The proposed disallowance to base costs appear to be based on flawed benchmarking. The benchmarked projects are generally not appropriate comparators to the WPD 132kV works on the Hinkley-Seabank project, as they mostly include much smaller cable sizes and ratings. Ofgem's

analysis also did not properly account for the effect of short cable runs to the £/km unit cost, due to the fixed costs of assets such as cable sealing ends. A significant flaw in Ofgem's approach is that the largest of the 132kV cable schemes, which accounts for more than half of the total 132kV cable costs, has already been market-tested by a WPD tender. As previously advised to Ofgem, the market price of these works is in fact £1.9m higher than the estimate provided with the Project Assessment submission. We therefore consider that the submitted costs are in fact an underestimate of the true costs, and that the allowance should be increased by the additional value of the tendered works. Failure to fund market-tested costs would be unacceptable.

Ofgem's unwillingness to allow for a risk margin on costs that are uncertain is counterintuitive. It is precisely because of uncertainty in estimates that contingency is required: the more certain the costs, the lower the contingency allowance needs to be. It is also not true to say that it is as likely that the estimates are too high as too low. This would only be the case if a P50 contingency margin is allowed in full. Possible decreases in costs are allowed for in the quantification of the risks in question.

Known tender costs should be funded in full. Two approaches to treating the uncertain costs are possible:

- 1) **Fund upfront on basis of P50:** Allowing the P50 value would represent good value to the consumer, as it would ensure that we are correctly funded for the works and, consistent with good regulatory practice, retain a strong incentive to manage the WPD works to ensure that the P50 value is not exceeded; or
- 2) **Fund later when certainty is greater:** An alternative approach would be to set the allowances once the costs are more certain.

Project management costs

Ofgem proposes a significant reduction in project management costs. Ofgem's approach is arbitrary and no evidence has been provided of the resource duplication referred to in the consultation document. Ofgem suggests that there is overlap between activities based solely on the fact that we use both direct and indirect allocation of the necessary support functions. We demonstrated during Ofgem's assessment process that there was no duplication of resources.

Ofgem's approach would mean that central functions critical to the delivery of the project would not be funded, in areas such as Audit, Assurance, Project Controls, Systems Management, Portfolio Reporting, Contracts Management support, Training, and Operational and Occupational Safety. Overall, our submitted project management costs are reasonable and necessary to deliver the project safely, economically and efficiently in the interests of consumers. Reductions in the allowances would impact on essential project management activities and would create additional project risks. These costs should therefore be funded.

Other attachments and confidentiality

We have set out detailed answers to the consultation questions below. I confirm that this response can be published on Ofgem's website. We have separately submitted detailed technical annexes, which are to be treated as confidential.

Yours sincerely,

[By email]

Chris Bennett

Director, UK Regulation, National Grid

T-Pylons

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?*

Ofgem is minded to disallow £23.6m associated with the use of T-Pylons on this project. The use of T-Pylons is required by the Development Consent Order (DCO) for the project made by the Secretary of State in January 2016. £12.3m would be disallowed because Ofgem is not satisfied that the decision to use T-Pylons was sufficiently well justified or represented value for money for consumers. A further £11.3m of development spend would be disallowed because Ofgem considers it to be outside the scope of the SWW mechanism. We consider that the proposed approach to disallowing these costs is fundamentally flawed, and fails to take full account of all the evidence presented to date.

a) Our approach to proposing T-Pylons in our planning application

According to para. 2.12 of the consultation document, Ofgem's main reasoning for considering that the T-Pylon costs are not sufficiently well justified is that we did not:

- give sufficient consideration to the costs and benefits that T-Pylons might provide along all or parts of the HSB route; or
- carry 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).

We strongly disagree with Ofgem's conclusions for the reasons set out below.

Consideration of costs and benefits

Ofgem contends that we have not provided "*robust analysis of the costs and benefits that T-Pylons might provide relative to lattice towers along the HSB route*" and that we have "*failed to demonstrate that such an assessment occurred either prior to or during the planning consent submission*" (para. 2.15). We disagree with this position for the following reasons.

Pylon Design Options report

We carefully considered the benefits and impacts of using T-Pylons or conventional steel lattice pylons in the Pylon Design Options Report (PDOR). The PDOR was published in August 2013, to inform the statutory public consultation on our proposals in September/October 2013. The approach of the PDOR was agreed with statutory stakeholders with an interest in landscape and visual assessment, as well as the other environmental factors considered in the report, and was carried out by qualified environmental practitioners, in accordance with agreed best practice (e.g. the Guidelines for Landscape and Visual Assessment published by the Landscape Institute).

As acknowledged in the consultation document, Ofgem's consultants on the Final Needs Case concluded *"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"* (para. 2.16). The Panel appointed by the Secretary of State to examine our proposals in 2015 concluded that it was *"satisfied with the thoroughness of the appraisal for recommending pylon type"*¹. Ofgem does not appear to dispute the quality or findings of the PDOR.

As Ofgem points to at para. 2.16, the PDOR found that the T-Pylon was marginally preferable in terms of landscape and visual amenity appraisals for most of the route. Ofgem also acknowledges *"that there was no significant difference in cost estimates between the T-Pylon and lattice tower design options"* (para. 2.18) at the time of the PDOR. As a consequence, there was no reason to weigh the costs against the benefits of T-Pylons over steel lattice pylons at this point.

Using T-Pylons on less of the route

A key part of Ofgem's concern over the approach taken in the planning process is that it may have been possible to use the T-Pylons on less of the route. This concern is particularly related to *"those areas that are located some distance from the Mendip Hills AONB"* (para. 2.17):

"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."

In our view, this is a fundamental error, as it suggests that Ofgem only considers landscape mitigation is justified in, or close to, those areas of highest landscape value. From a planning policy perspective, proximity to the AONB is not the primary factor in determining landscape impact, which should instead be based on the individual characteristics and sensitivity of each host landscape. This was the approach of the PDOR.

As Ofgem mentions, underground cables were necessary to mitigate the landscape harm that would have occurred by using an overhead line through the Mendip Hills AONB. However, it does not follow that this was sufficient mitigation for landscape impacts caused elsewhere on the rest of the proposed route. Many stakeholders preferred that landscape effects were minimised or avoided by using underground or subsea cables for the whole route, and not just in the AONB.

The National Policy Statements (NPSs) are clear that landscape harm should be considered regardless of any statutory landscape designations. For example, NPS EN-1 (para. 5.9.8) confirms that *"virtually all nationally significant energy infrastructure projects will have effects on the landscape"* and that *"projects need to be designed carefully, taking account of the potential impact on the landscape"*. NPS EN-5 (para. 2.8.10) states that the main opportunities for mitigating potential adverse landscape and visual impacts of electricity networks infrastructure include *the "selection of the most suitable type and design of support structure (i.e. different lattice tower types, use of wooden poles etc.), in order to minimise the overall visual impact on the landscape"*.

The Holford Rules², for selecting and assessing potential route corridor options and alignments for overhead lines, seek to minimise landscape and visual amenity effects for all new lines regardless of location. We also have wider amenity duties as set out in Schedule 9 of the Electricity Act 1989, which apply regardless of landscape designation.

¹ https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN020001/EN020001-004121-151019_EN020001_HPCC_ExA_Report_to_SoS_Main_Report.pdf - see para. 5.9.40

² <https://www.nationalgrid.com/sites/default/files/documents/13795-The%20Holford%20Rules.pdf>

We exercised considerable care in our deliberations on where T-Pylons would be an appropriate mitigation. The PDOR and public consultation was the appropriate way of doing this, and there appears to be no dispute from Ofgem that the PDOR followed a robust and reasonable process. It would not have been appropriate to base our decisions on the proximity to the Mendip Hills AONB, or any other factor not required of us in the National Policy Statements.

Given the above, it is not clear how Ofgem's approach is consistent with its own wider environmental and amenity duties, which are similar to those under which we must operate. This is particularly the case since Ofgem was notified at the relevant stages of the process – the statutory consultation in 2013 and the examination in 2014 – and chose not to engage.

Public consultation

The minded-to position does not appear to recognise the importance of public consultation, which plays a central role in the DCO process. The proposals, including the use of T-Pylons in accordance with the PDOR, were subject to statutory public consultation in September / October 2013, the results of which we are under a legal duty to take into account. The results were recorded in the Consultation Report submitted with our planning application. A recurring theme at all stages of consultation on the project, including the statutory consultation, was a desire of consultees for all of the route to be underground or subsea. However, of the responses that did express a preference on pylon type, there was strong support for the use of T-Pylon. In the southernmost section, where the PDOR had proposed steel lattice, consultees supported T-Pylons. Responding to this, we amended our final proposals to include T-Pylons in this section.

Disregarding the results of the public consultation would have introduced significant consent risk, with a corresponding risk to programme, and could even have resulted in our application not being accepted for examination on grounds of inadequate consultation. As we discuss later in this response, this would have caused significant delay and detriment to consumers.

Cost differential

Under the Planning Act 2008 consent regime for major infrastructure projects, the proposals presented for public consultation must be substantially similar to the scheme for which a DCO is later sought, otherwise a fresh consultation would need to take place, with the associated delay. Therefore, the decision to use T-Pylons for most of the overhead line sections was effectively made at the point the PDOR was prepared, when the cost differential was not great enough to materially affect the assessment.

The higher costs of T-Pylons became apparent shortly before the DCO application was made in May 2014. Re-designing to use steel lattice pylons instead of T-Pylons, and re-consulting on the new proposals, would have added at least 12 months to the programme. This would have likely proved controversial, given the expectation of T-Pylons. We published an update to our Strategic Options Report³ at this time so that the planning examination could proceed in full knowledge of the revised costs. The report confirmed the strategic option – including the T-Pylons – was still the preferred option, even with higher mitigation costs due to T-Pylon, when compared to other costlier solutions.

³ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN020001/EN020001-001087-7.4%20Update%20to%20SOR%20Cost%20Tables%20and%20Relevant%20Appendices.pdf>

Ofgem is concerned that *“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 reconsidered its conclusions, based on the PDOR, regarding how much of the route to use T- Pylons on”* (para. 2.18).

However, it was clear and obvious that any delay in progressing the consents would have resulted in material additional costs to the project. These costs would significantly outweigh the cost differential between T-Pylon and steel lattice pylons. The analysis presented at the time of the Final Needs Case suggested that delaying the connection would result in an average net welfare loss of at least £534m per year, and average consumer surplus losses of at least £227m per year. In addition to being contrary to the interests of consumers, delay in these circumstances would have been contrary to National Grid’s contractual obligation to connect EDF. In any event, as we discuss further below, there would have been a very high risk of refusal if we had switched to steel lattice pylons.

Ofgem also states that it considers *“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”* (para. 2.18). However, decisions should be based on the best information available at the time. It is not clear what premium we could reasonably have added to the new T-Pylon technology without appearing to introduce a deliberate decision bias towards steel lattice. Our costings at the time were subject to intense scrutiny from stakeholders, and loading costs onto an option without justification would have seriously called into question our decision-making methodology, which would then have been tested in the planning examination. Therefore, adopting the suggested approach would have introduced consent risk, with the potential risk of delay and increase in end consumer costs.

Quantitative ‘Cost Benefit Analysis’ (CBA) techniques are not adopted in planning and environmental decision-making. It is generally not considered possible to properly assign a monetary value to the effects of a proposed development on the environment. Therefore, it would not have been appropriate to determine the types of mitigation we proposed – including the T-Pylon, but also various other mitigations, including undergrounding in the Mendip Hills AONB – by using CBA methods. Had we used such techniques, this would have been open to challenge in the DCO examination process.

In summary, Ofgem’s view that we have not balanced our *duties “to achieve what may be environmentally desirable and what is in the interests of consumers in providing an efficient network”* is not correct (para. 2.19).

Ultimately, we recognise it is our role to make judgements on what schemes to progress, and Ofgem’s role to review our justifications for such decisions where these affect the cost of the project to consumers. However, all the evidence provided to Ofgem since the decisions were taken has demonstrated that we followed a robust process, and reasonable decisions that were in the interests of consumers and customers were taken, based on the information available.

Since the T-Pylon decisions were taken, Ofgem has updated its SWW procedures to have a greater role in routeing and costs (including the costs of visual mitigation measures) at an earlier stage, which demonstrates that there were inadequacies in Ofgem’s process at the time.

Assessment of consent risk and alternative ways risks might have been mitigated

Consent risk

Deciding to use steel lattice pylons instead of T-Pylons would have meant rejecting the findings of the PDOR, feedback from statutory bodies and the outcome of the public consultation. In previous submissions, we have set out in detail why not adopting T-pylons against this background would have caused a very high risk of refusal of the DCO. It would have been likely that the application would have been refused on the basis that, contrary to the Planning Act 2008 and the NPSs, we had not adequately mitigated the adverse landscape and visual effects of the development and that the adverse effects of the development outweighed its benefits.

We have demonstrated this was the case in the submitted opinion from the senior Counsel instructed on the Hinkley-Seabank project, who was responsible for providing planning advice to the project at the points the key decisions were taken.

The consequence of the refusal of the application would have been:

- a delay to the connection of Hinkley Point C of several years, as it would take around 18 months to decide the application, a further 12 months to re-design our proposals to be acceptable, and another 18 months to consider a fresh application;
- significant additional costs due to an extra consultation and the significant constraint costs referred to above; and
- a possible greater risk that the level of undergrounding proposed was not sufficient to address the visual impact of the scheme, especially in the context of the Mendip Hills AONB.

Ofgem does not specifically argue with this analysis in its minded-to position. It acknowledges at para. 2.20 that the use of T-Pylons “*may be expected to have reduced the risk of planning refusal*” and goes on to state that:

“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”.

We have described above the process for deciding to use T-Pylons for most of the route. The use of T-Pylons was only one of a range of mitigation measures taken to reduce the impacts of the Hinkley-Seabank project. In balancing our duties, we significantly reduced costs by resisting calls from many stakeholders to use underground or subsea cables for more, or all, the route. The proposals we put forward balanced our duties appropriately, and seeking to reduce costs further by not using T-Pylons would have put the scheme at significant risk for the reasons described. The counterfactual outcome of promoting a steel lattice scheme can never be known, but we have provided evidence that it was very likely that consent would have been refused.

Proposing alternative pylon types in the DCO

Ofgem is concerned that “*NGET does not appear to have appropriately assessed the risk, at the time of its planning application, of whether ... the planning application could have included lattice towers as an alternative option to T-Pylons*” (para. 2.21).

Ofgem appears to have misunderstood the DCO planning process. The statutory framework and government guidance set a clear expectation that DCO applicants should consult on and apply for a

scheme that they consider will successfully be granted a DCO by the Secretary of State. Applicants are required to go through extensive pre-application consultation during which interested persons are given an opportunity to comment on, and influence the design of, the project. An applicant must make a judgement well before submitting its application about whether the Secretary of State will consider the project to be in accordance with any relevant NPS and that its adverse impacts do not outweigh its benefits. We therefore had to weigh up all the evidence as to whether steel lattice pylons would have likely been acceptable to the Secretary of State or risk delaying the project, with the attendant consumer harm. As described above, in the case of the Hinkley-Seabank project, our use of T-Pylons was decided taking into account the PDOR and the statutory public consultation.

Ofgem suggests we could have possibly applied simultaneously for two different overhead line schemes with the aim of letting the Secretary of State decide the most efficient solution. However, this would not have been acceptable. The general expectation is that fully formed proposals are submitted for consideration by the applicant. The relevant guidance from the Infrastructure Planning Commission (IPC)⁴ in place at the time confirmed that any flexibility included in applications should not result in alternatives that are “*so different that they appear to result in entirely different schemes*”⁵. As the overhead line is the only part of the works forming ‘nationally significant infrastructure’ under the Planning Act 2008, for which a DCO is required, applying for a lattice overhead line would be ‘entirely different’ to a T-Pylon alternative, and it would therefore not have been possible to apply for both.

Using T-Pylons on less of the route

Ofgem is also concerned at para. 2.21 that the risk of “*whether a case could be made that T-Pylons could have been used on less of the route than it proposed*” was not assessed at the point the application was made. This would not have been possible.

There would need to be a clear rationale for such changes. As noted above, the PDOR and subsequent public consultation informed our judgements in accordance with the relevant NPSs. Ofgem’s proposed approach would not allow fine distinctions to be made on whether the additional landscape and visual harm would be justified in particular sections considering the additional costs. We have already explained above why proximity to the AONB would not be a determining factor as suggested by Ofgem. Generally, consultation feedback indicated we should use T-Pylons on more, not less, of the route.

Furthermore, as is noted throughout the PDOR, there would also be additional landscape harm at the point of transitioning between steel lattice and T-Pylons, which would make a ‘mix and match’ approach undesirable.

Demonstrating planning permission would be refused

Finally, Ofgem’s states the following at para. 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

⁴ The IPC was the predecessor of the Planning Inspectorate for considering DCO applications on behalf of the Secretary of State

⁵ https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/General/General-Advice-00419-4-120322_Letter%20to%20Hector%20Pearson_National%20Grid.pdf

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.”

As Ofgem refers to, we were asked at the Final Needs Case stage to provide “*robust evidence that not using T-Pylons would have increased the risk of planning consent not being granted*”. We have now provided this evidence, with which Ofgem does not find fault and agrees that our actions reduced consent risk. Ofgem also does not take issue with our view on the consequences of the consent being refused, which would have caused consumer harm significantly greater than the additional costs of T-Pylon transpiring since the key decisions were taken.

In our view, Ofgem is therefore not being reasonable in its approach. Having provided the information required, Ofgem has adopted new criteria for judging our decisions, based not on whether the correct decisions were made and whether consumers’ interests were served, but on the decision-making process itself, partly resting on misunderstandings about how DCO projects are developed and the relevant statutory and policy framework.

Despite Ofgem’s view that a requirement to demonstrate that planning permission would have been refused without T-Pylons is ‘not its position’, it is nevertheless the implication of its views on consent risk and the balancing of our statutory duties: that planning permission *could* have been granted for a full or partial lattice pylon scheme.

The counterfactual can never be known, but we followed a clear process and made reasonable decisions about pylon type at all times, based on the information available, in a wider context of stakeholder calls for more costly underground or subsea solutions. We have provided evidence to show that there was a very high consent risk in not proceeding with T-Pylons. It is unreasonable and unrealistic for Ofgem to expect us to record and document the decisions in the way implied by Ofgem in the consultation document. In particular, it would not have been possible to 1) pursue two different schemes through the DCO planning system, or 2) switch to a whole or partial lattice pylon alternative at the point that Ofgem suggested.

The use of T-Pylons was an efficient and justified means of managing the risk of refusal of planning permission, mitigating delay risk and avoiding greater costs through more costly mitigation (e.g. undergrounding). The costs of developing and constructing the T-Pylons should therefore be fully funded.

If Ofgem were to not provide allowances for these necessary and efficient costs, it would raise serious concerns regarding the application of the SWW process and the interaction with the Government’s infrastructure planning process, and introduce a difficult precedent for future projects.

b) Disallowance of T-Pylon development costs (£11.3m)

Ofgem considers that the T-Pylon development costs included in our Project Assessment submission are not justified as they are “*outside the scope of the SWW mechanism, as they are not specific to the delivery of HSB*” (para. 2.3). Ofgem instead considers that we “*could have sought funding for these costs under the RIIO-T1 mechanisms aimed at delivering innovation*” (para. 2.4).

One of the key principles of the RIIO-T1 innovation mechanisms is that projects should only receive innovation funding if they cannot be funded through other areas of the price control. Given that the project-specific costs are part of the Hinkley-Seabank project, we reasonably expected to recover this expenditure through the SWW mechanism. This project was instigated prior to RIIO-T1, prior to the introduction of the T1 innovation mechanisms. The scope of the project was not defined through an eligibility assessment. There is nothing in the published arrangements that suggest otherwise.

Therefore, it would not have been appropriate to fund this work through the RIIO-T1 innovation funding mechanisms.

Only those costs related directly to Hinkley-Seabank project have been included in the submission, which are almost exclusively for the Eakring training line. A further £8m development costs have been excluded, a portion of which was successfully subject to RIIO-T1 Network Innovation Allowance funding. The method for distinguishing between Hinkley-Seabank specific activities and 'generic' development activities was shared with Ofgem in September 2016 as part of our application to amend Pre-construction Engineering Outputs under Special Licence Condition 3L. A direction was made for this amendment by Ofgem in May 2018. This method apportions almost all design and development costs – e.g. development of initial visual concept, architectural concept design, verification of structural design – to 'generic' development. Only £50,000 of these costs form part of our Hinkley-Seabank costs, where there is a clear link between the works and specific benefit to the Hinkley-Seabank project (e.g. foundation design).

The Eakring training line was only taken forward in the specific context of the Hinkley-Seabank project to 1) facilitate planning and environmental decision-making processes on the project; to 2) give our supply base confidence that T-Pylon was deliverable, reliable and safe to use on the project; and 3) allow a better assessment of the cost risk.

We therefore disagree that this costs are not specific to the Hinkley Seabank project. The existence of the test line reduced contractor risks on issues such as proof of concept and development knowledge, productivity rates, foundation design and construction techniques. Had we not undertaken this work, contractors would have incurred costs in their own testing, and/or would have added greater contingency into their prices. We have been advised by our main works contractor for the overhead line works that the T-Pylon test line reduced the tender price in the order of £6m for this reason. Access to the design also gave confidence to contractors to participate in the process, resulting in a more competitive procurement event.

As regards being outside the scope of the SWW mechanism, Ofgem's statement that "*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*" (para. 2.4) implies that innovation should only take place through identified innovation funding streams. We strongly disagree with this statement. Indeed, we believe it is at odds with the principles of RIIO. There will always be the opportunity for benefits on future projects from project-specific innovation. The price control framework is fundamentally structured to encourage us to innovate across our all activities, with the innovation mechanisms only applying where innovation would otherwise not be funded.

The SWW arrangements should encourage and support innovation and we are not aware of anything in the arrangements that supports Ofgem's position. If anything, the arrangements assume innovation is part of and funded through main activities, with the focused innovation arrangement funding only applied exceptionally.

c) Disallowance of T-Pylon construction and installation costs (£12.3m)

As confirmed at para. 2.9 of the consultation document, in its Final Needs Case decision, Ofgem stated that we needed to share supporting analysis from the planning process before Ofgem could be comfortable that consumers should fund the full cost differential of using T-Pylons. If not, we would "*need to provide further analysis to support its argument that consumers are willing to fund these additional costs*".

We have demonstrated above that the decision to use T-Pylons for most of the scheme was justified and in the interests of consumers, and so should therefore be fully funded. Consumer willingness to

pay research further supports this position. Having carried out our role responsibly and efficiently we are now committed to delivering the Hinkley-Seabank project and meeting the needs of our customers and consumers. The efficient costs of doing this should be fully met. It is not appropriate for Ofgem to carry out 'hindsight regulation'.

Ofgem proposes to fund £12.3m of the cost differential between T-Pylons and steel lattice pylons. We note at para. 2.27 that Ofgem believes this is half of the additional costs. This is not the case, as the additional costs also include the development costs referred to above. The full differential is £36m. In any event, we are not clear why Ofgem considers this point to be significant.

We have evidenced consumer acceptability and willingness to pay (WTP). The amount Ofgem is proposing to fund corresponds to the lower bound of the WTP research carried out by PwC to support our Final Needs Case submission. This study is one of several pieces of consumer research on the issue of visual mitigation for transmission infrastructure, and sits alongside:

- 1) WTP research on visual mitigation measures by Accent Market Research to support the RIIO-T1 business plan (the RIIO-T1 research);
- 2) WTP research on wider issues including visual mitigation by NERA / Explain to support the RIIO-T2 business planning process (the RIIO-T2 research); and
- 3) Acceptability testing by Accent, carried out specifically on the use of T-Pylons on the Hinkley-Seabank project, and included with the Project Assessment submission.

The PwC research used several conservative assumptions to scale primary WTP data from a previous PwC/SHE Transmission study on the Beaulieu to Denny transmission line upgrade. These were estimated using a conservative 'benefit transfer' approach.

The research found consumers were willing to pay between £12m and £39m for the use of T-Pylons on the Hinkley-Seabank project. The lower bound of the range was a highly cautious one to allow for uncertainty in the 'benefits transfer' approach used in this research. Several conservative, worst case assumptions were made. We therefore consider that £12m is an unduly pessimistic estimate of WTP for the reasons set out below.

Location adjustment

The lower bound in the study assumed that consumers were substantially less willing to pay for visual mitigation measures in rural areas outside of designated National Parks and AONBs. The location adjustment made for Hinkley-Seabank (a reduction 63% from the Cairngorms National Park, based on relative visitor spend) significantly overstates the greater preference that consumers place on mitigation in designated areas relative to other (non-designated) rural areas.

Other studies have shown this is not the case, and demonstrate relatively consistent WTP for visual mitigation measures across all rural areas, including those not designated as National Parks and AONBs. For example, the RIIO-T1 research showed identical WTP values for T-Pylons in National Parks, AONBs and 'other rural areas' in most distance categories.

This pattern is also visible in new RIIO-T2 research, which shows WTP for 'undergrounding overhead transmission lines' in other areas is £6.46, 94% of the equivalent value for National Parks (£6.87).

These studies therefore show that consumers are broadly equally willing to pay for T-Pylons inside and outside of designated areas.

PwC's conservative 63% downwards adjustment was carried out based on relative visitor spend, which is a less robust method of assessing relative consumer preferences than the primary evidence in these studies.

If the PwC location adjustment was removed, the WTP value would be £33m, once adjusted to 2018 prices. Based on the latest evidence, it is reasonable that a downwards adjustment of 6% should be applied, based on the 94% relative WTP figure in the T2 study referred to above. This would result in a WTP of **£31m**.

The PwC lower bound also does not adjust upwards for the landscape types identified on the Hinkley-Seabank project, when the study found that consumers value landscapes similar to the Hinkley-Seabank landscape character highly. The upper bound made a small (3%) upwards adjustment. This would increase the WTP figure to £32m, giving additional confidence to the £31m figure.

Accounting for future billpayers

The lower bound of the PwC research assumes that only current, and not future, consumers are willing to pay. The upper bound including a conservative assumption for future populations, with a linear adjustment downwards from year to year for future populations. This was made over an 80 year asset life, rather than a 45 year regulatory depreciation period (e.g. someone becoming a billpayer 10 years after the line was constructed was deemed to value the visual impact at 70/80% of the WTP at the beginning of the line's life). This is sufficiently conservative to have confidence in the PwC upper bound assumption, giving further confidence to the adjustment made for location, which relies on the lower bound assumption.

Effect of distance on results

The PwC research used a conservative approach for accounting for the effect of distance on WTP. This applies to both upper and lower bounds.

Other studies have found that people are willing to pay significant amounts for visual amenity mitigation measures, even when over very short distances, but that this WTP increases with distance at a decreasing rate (i.e. the relationship of WTP and length is not linear).

However, the PwC study averaged the WTP estimates over a theoretical 200km transmission line (the original data being based on Beaulieu-Denny). The WTP figures were divided by 200km to reach a £WTP/km figure, which was then applied to the distance of the T-Pylon sections on the Hinkley-Seabank project. The study acknowledges that applying this approach over distances shorter than 200km 'is likely to give conservative WTP results' and is recorded as a limitation of the research.

The previous RIIO-T1 research found much greater WTP partly for this reason – e.g. for T-Pylons in other rural areas, the T1 study found WTP of £230m for 'at least 5 miles', 'at least 10 miles', and 'at least 20 miles', increasing to £410m for 'at least 50 miles'. This illustrates that £/km average used in the PwC is likely to understate WTP at the shorter distance of T-Pylons used on Hinkley-Seabank, as acknowledged in the report.

The RIIO-T1 research findings are not directly applicable to the Hinkley-Seabank project as they primarily relate to visual mitigation for existing, rather than new, infrastructure. Notwithstanding this, the surveys for this research found that most billpayers preferred mitigation of both existing and new infrastructure. It is therefore reasonable to conclude that similar levels of WTP would exist for new lines. The relevant figure for Hinkley-Seabank (38km of T-Pylons) would be £230m. This gives additional confidence that the PwC assumptions are conservative, in both the upper and lower bounds.

Consumer acceptability

The acceptability testing by Accent Market Research submitted with the Project Assessment assessed consumer acceptability for additional spending of £65m for the T-Pylon, the value being the worst case used at the time of the Final Needs Case. This found a significant majority of billpayers (62%) found these costs acceptable, with only 18% finding it unacceptable.

This can be considered a worst case because: 1) the differential is substantially less than £65m, and 2) the consumer bill impact was calculated over 25 years in line with the Competition Proxy Model (CPM), rather than a longer regulatory depreciation period, meaning that the impact presented was higher than it will be under SWW. These two factors would support the actual £36m cost differential being significantly more acceptable – i.e. a lower value spread over a much longer recovery period, significantly reducing the cost per annum per bill. This gives further confidence that sufficient consumer WTP exists.

Ofgem criticisms of Accent acceptability testing

Ofgem states at para. 2.24 of the consultation report that it is not satisfied “*that the results of this study are robust, due to concerns regarding the way it was carried out*”. The concerns are not elaborated on in detail but it does say “*the study repeatedly conflated use of T-Pylons on HSB with mitigation of visual impact in National Parks and AONBs*”, and gives an example from the qualitative survey phase. However, this qualitative phase was used only to assist with the design of the quantitative study, and therefore has no impact on the robustness of the quantitative survey results used to derive the consumer acceptability level. Ofgem has made no criticism of the quantitative methodology.

Ofgem also points to an illustration map that it believes wrongly suggests the HSB project lies within Exmoor National Park. However, this map was at the national scale, made no explicit reference to Exmoor, and appeared alongside a larger scale inset showing the exact location of the project relative to the Mendip Hills AONB. The project was also described in detail, including information about its location.

These points are not material to the quality of the research, which is robust, carried out by an independent third party specialist, and adds further confidence that sufficient consumer WTP exists for the use of T-Pylons.

Summary

We have demonstrated above that the decision to use T-Pylon was justified and in the interests of consumers, and the additional costs should therefore be fully funded, even prior to considering consumer WTP analysis. However, there is also sufficient WTP for the following reasons:

- The £12m PwC lower bound is unnecessarily conservative as it is not necessary to adjust downwards for location to the extent Ofgem has used, given consumers’ broadly equal preference for visual mitigation measures. This is demonstrated by new evidence from RIIO-T2 research as well as other studies. We propose that the value should be adjusted downwards to a lesser extent than Ofgem proposes (to £31m) to take account of the latest research.
- PwC’s lower bound only included current consumers (i.e. it assumes future consumers have no WTP at all), and its upper bound assumption is also relatively conservative (in assuming

that WTP will decrease over time). The £31m figure we suggest relies only on the lower bound assumption, giving confidence to the adjustment made for location.

- Both upper and lower bounds in PwC's research are acknowledged to give conservative results due to the approach used to account for the effect of distance on WTP. Other research that does not average WTP over distance results in higher WTP values, which gives further confidence in our proposed adjustment.
- There is 62% consumer acceptability for a value greater than the T-Pylon cost differential. Ofgem's criticisms of this research are not material to the quality of the data, and appear to be a misinterpretation of the evidence.

There is therefore clear evidence to support that WTP of at least £31m exists. This is a conservative estimate, because, other than the location adjustment made, it reflects all worst case assumptions of the lower bound in the PwC research. The acceptability testing we have carried out shows high acceptability for a much higher cost differential (£65m). Sufficient consumer WTP therefore exists for the whole £36m cost differential.

Treatment of ‘high impact, low probability’ and ‘difficult to quantify’ risks

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

At para. 2.29, Ofgem proposes an arrangement where “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”. If these risks do occur, “they should be considered for funding through a specific and targeted cost reopener mechanism.” We agree in principle with this approach, but fundamentally disagree with the arrangement that Ofgem is proposing to achieve it.

No upfront allowance is made for these risks. A cumulative 10% materiality threshold for the qualifying risks is proposed – i.e. all spend under this threshold is not funded by either an ex ante allowance or eligible for a reopener mechanism. At the currently proposed capex value, the threshold would amount to £63.7m. We estimate the value of the portfolio of unfunded risks as £34.8m⁶ at P50 confidence, and our modelling shows that the probability of exceeding £63.7m is only 27%. This would mean that we would bear significant risk outside of our control with no commensurate allowance. We would not have full coverage for the most likely outcome. This is clearly an unacceptable proposal.

This is inconsistent with Ofgem’s stated principles, which are that 1) consumers should not unnecessarily pay for risks which are highly unlikely to eventuate or are difficult to robustly quantify before they occur; and 2) we should have comfort that if a high impact risk, beyond our control, occurs, it will be funded for efficient costs. It is a central principle of how the regulatory framework should work that risks should be allocated to the parties best placed to manage them. We therefore do not accept or agree with Ofgem’s proposed treatment of the qualifying risks.

The arrangement would also not be consistent with the principle that price control settlements should be calibrated so that baseline returns are consistent with the level of risk network companies are exposed to. The likely outcome of these unfunded risks would materialise under the T2 arrangements. Ofgem has indicated that RIIO-T2 will be a low risk and low return price control. Exposing us to unfunded risk is not consistent with that approach.

Background

The default SWW Cost and Output Adjusting Event (COAE) regime applies a 20% materiality reopener threshold for a limited list of uncontrollable risks: extreme weather, ground conditions and planning requirements. Our assumption is that this would be on top upfront P50 funding for these risks. As a minimum, all likely events should be funded at P50.

At the Final Needs Case stage, we argued that this arrangement would mean we had to price on a risk-averse basis to ensure we were not exposed to significant risk of uncovered costs. This could lead to windfall gains or losses, which would not be in the best interests of consumers. Ofgem recognised this in its Final Needs Case decision, which determined that contingency funding for extreme weather risk would not be included in the upfront allowance. Efficient costs would instead be determined via a ‘post-construction review’ (PCR), only if extreme weather occurred. Ofgem’s

⁶ This figure excludes the risks of additional costs arising through delay or cancellation to Hinkley Point C, but includes extreme weather and flood risk, which was removed from the estimate prior to the Project Assessment submission on the understanding that efficient spend could be recovered if the risk occurred

previous position on the delivery model for Hinkley-Seabank confirmed this arrangement would also apply to any other such 'qualifying risks'.

Our understanding, based on Ofgem's published decisions and discussions, was that, although these risks would not be funded upfront, any efficient expenditure incurred due to these risks would be funded (i.e. no materiality threshold would apply). During the discussions on our Project Assessment submission we identified a range of qualifying PCR risks that we considered would qualify for one or both of the two above criteria. These risks are consistent with the 'qualifying risks' set out in Appendix 2 of the consultation document.

These risks were identified on the condition on our part that a satisfactory regulatory treatment, resulting in appropriate allocation of risk, could be agreed. However, the SWW mechanism is different to CPM, in that it generally anticipates the setting of ex ante allowances. It does not automatically follow that this list is appropriate to be treated by the COAE regime, which applies a very high materiality threshold, as the risk we are exposed to will be different.

Ofgem's proposed treatment

Ofgem now proposes to achieve its objectives of 1) shielding consumers from unnecessarily paying for risks and 2) providing us with comfort that uncontrollable risks would be funded, through an amendment to the SWW COAE provisions. The COAE threshold would be reduced from 20% of total project capex to 10%, applied cumulatively, and expanded to cover a greater range of qualifying risks. P50 funding for the risks would be removed from the upfront allowance.

Overall, this risk treatment is unacceptable in principle and contrary to Ofgem's stated intentions. The arrangement would expose us to a significant, unacceptable and unfunded degree of uncontrollable risk.

Our concerns are based on the following factors:

- **Risks likely to occur are not funded:** It would be likely that significant additional costs are incurred but at a level not meeting Ofgem's threshold of 10% (£63.7m). No upfront allowance is provided for these risks. It is wrong in principle not to fund these risks. Although some of the risks are low probability, in combination there is a high likelihood of significant costs being incurred. Our modelling suggests that the chance of incurring expenditure on these risks but at a lower value than the threshold is 73%. The P50 value is £34.8m. This means that, in the most likely outcome, we would not be funded for approximately £35m of costs arising from these risks. This is unacceptable and we would consider it to be a material error in the assessment of costs. This is particularly the case for the 'difficult to quantify' category of risks, as these generally are high probability (i.e. likely to occur – 60% is the most likely), and the uncertainty is over the magnitude of impact (i.e. it is more likely than not that substantial expenditure will be incurred on these risks that we will not be able to fully recover).
- **The qualifying risks are not in our control:** None of the qualifying risks listed are within our control. Risk should be apportioned to the party best able to manage it. As these risks are beyond our control, it is inappropriate for us to bear the risk, and as a matter of regulatory principle, these risks should sit with consumers. We accept the need for a transactional threshold, but do not understand why this should be linked to the project's capex rather than the cost of a review.
- **Interaction with allowed upfront contingency:** Ofgem's expectation that the unfunded risks can be cross-subsidised by the upfront 'general risk allowance', as it is described by Ofgem, is flawed. The upfront contingency is not a general allowance but is specifically related a

series of known, specific and quantified risks. These have been calculated at P50, therefore it is incorrect to refer to them or treat them as some form of 'general risk allowance'. Furthermore, due to the disallowances Ofgem proposes to make to the upfront allowance, our modelling shows there is only a 6% chance of not exceeding the £33.2m proposed by Ofgem. The most likely outcome would therefore be a significant loss. Therefore, we consider this a material error in the assessment of risk by Ofgem.

Comments on specific risks

We have some specific concerns with the treatment of several of the qualifying risks listed by Ofgem for COAE treatment. We have set these out in the table below.

<p>Extreme Weather / widespread flooding</p>	<p>This risk is by far the largest contributor – £23m – to the overall exposure to the COAE risks. There is a very high exposure in the maximum worst case, but also a relatively high exposure in the low and most likely scenarios, neither of which would meet the 10% threshold. The risk has a probability of 50% of occurring.</p> <p>The project is subject to high flood risk, especially on the Somerset Levels and Moors, with a significant proportion of the route passing through land designated by the Environment Agency as Flood Zone 3 (high probability). The chart overleaf demonstrates this.</p> <p>The Flood Risk Assessment included in our Project Assessment submission states that “<i>given an average chance, the assessment indicates that, over the 7-year construction period, there are expected to be 911 days where at least one site is closed due to flooding across the HSB project</i>”. Contractors carry the risk for events of greater probability than 1:10, but the remaining risk would not be efficiently priced by contractors.</p> <p>We are therefore exposed to significant risk up to the proposed COAE threshold. Given the high likelihood of flooding, and the relatively high cost impact even in less extreme scenarios, we would consider describing this risk as 'high impact, low probability' an error.</p>
<p>Hinkley Point C cancellation or delay</p>	<p>Additional costs may arise if it were to be considered in the interests of consumers to vary or cancel the project if the HPC power station was delayed or cancelled. Ofgem has included this risk on its list of qualifying COAE risks and our working assumption is therefore that the 10% threshold would apply to these costs.</p> <p>In subsequent discussions, Ofgem noted that if such a scenario arose, a re-consultation on the relevant output in our licence would be necessary, and that changes to costs as a result would be considered. We would be remunerated for any additional costs arising. If this understanding is confirmed as correct by Ofgem, it would not be necessary to treat this issue under the risk treatment, as there would be no funding gap (assuming no threshold applied).</p>
<p>Archaeology - Extended works and Protestor Action on/near NGET sites</p>	<p>In recent discussions, Ofgem suggested that these risks would not be allowed ex ante as the base costs already include sufficient coverage. In both cases, the proposed allowance only allows for much higher probability scenarios.</p> <p>In the case of protestor action, contractors take risk up to 14 days, but there remains a risk of greater disruption that would not be efficient for contractors to price for. For archaeology, Ofgem proposes to fund the risk for up to 14 day delays on each scheme, but there remains a risk of significant finds causing greater additional costs. In both cases, it is not appropriate to conclude that neither of these risks is eligible for funding, as they are clearly legitimate risks.</p> <p>These risks do not sit comfortably in the COAE arrangements as they are unlikely to contribute significantly to exceeding the proposed 10% threshold.</p>



Environment Agency flood zone map (source: 'HSB flood risk assessment', Atkins, July 2018)

Consistency with other projects

Ofgem argues that the proposed arrangements are “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”. This interpretation is incorrect for several reasons.

The inclusion of a greater number of risks, and especially those that are likely to occur but relatively difficult to quantify, significantly increases the risk profile in comparison to a COAE regime relating to a more limited range of high impact / low probability risks. This is especially the case given that no upfront allowance is provided to cover the more likely outcomes of these risks (i.e. a P50 allowance). This means that the Hinkley-Seabank arrangement exposes us to more risk than the schemes Ofgem is comparing to.

Furthermore, the ‘default’ SWW COAE arrangements assume that extreme weather and flood impact is low probability. However, as we have demonstrated above and in the submitted Flood Risk Assessment, in the case of Hinkley-Seabank, this risk is relatively likely to occur, with relatively high impact.

Arrangements should be made on a project-specific basis, reflective of the individual characteristics and risk profile of each project. For example, according to Ofgem’s decision, the lower (5%) threshold on the Caithness-Moray project was based on the complexity of the project, rather than only its capex value. This was because it is possible that each specified event would only effect one project component (onshore or offshore).

A similar logic could be applied to Hinkley-Seabank, which is a portfolio of separate but inter-related projects across a significant distance and several technology types (two 400kV overhead line schemes, 400kV cables, 132kV cables, substation works, works to the DNO network), each with its own identified risks. It is also likely that the risk margin on the subsea cable element SHET’s works would be proportionately smaller relative to capex, due the contractual arrangements usually in place for such works, which typically place more risk on specialist marine contractors, who are best placed to manage marine risks.

Alternative arrangements

In summary, we do not consider that Ofgem’s proposed treatment of the qualifying risks is acceptable. There are two broad alternative arrangements that we consider would be closer to the overall objectives of the COAE regime and the principles outlined by Ofgem in the consultation: 1) consumers should be shielded from unnecessarily paying for risks; and 2) we should have comfort that uncontrollable risks would be funded.

The ‘qualifying risks’ should either be:

- 1) funded fully ex ante at their P50 values, with a materiality threshold to ensure that that low probability but high magnitude outcomes would not expose us to additional costs of high materiality (and linked to the broader price control risk exposure) – we consider a 5% threshold would be appropriate, consistent with the SWW Caithness-Moray example mentioned above; or
- 2) excluded from the upfront contingency and be subject to COAE arrangements, but with no threshold, or a low enough threshold to ensure that exposure is not material, linked to the cost of running the assessment process (i.e. transactional cost).

This would be in the interests of consumers for the following reasons:

- If an ex ante arrangement were to be applied, the most likely scenario would be funded, especially for higher probability risks. This would ensure that consumers do not pay unnecessarily for unlikely costs. A suitable threshold could be applied to ensure we are not exposed to higher materiality outcomes, which are less probable than P50. Failing to fund risk would have a longer-term cost for end consumers.
- If an ex post arrangement were applied, by definition, consumers would only pay if risks occurred, in accordance with Ofgem's objective, with any payments reflecting the recovery of costs expended only. This arrangement would also give us comfort that such costs would be recoverable subject to a materiality test (related to the transactional cost of the process), which would incentivise us to limit costs to the extent possible, recognising that these risks are generally beyond our control.

Treatment other costs

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

Treatment of WPD costs

Ofgem proposes to disallow approximately £8m of the P50 estimated costs of necessary works to the WPD network. This relates to £3.2m of 132kV cable supply and installation costs, and £5m of contingency. Ofgem is concerned that:

- 1) some of the works are yet to be tendered and the scope remains relatively uncertain (para. 2.35.1);
- 2) the commercial arrangements mean we will not be in full control of WPD's behaviour and costs (paras. 2.33.2 and 2.35.2); and
- 3) costs are as likely to be too high as they are to be too low, and therefore estimating uncertainty risk should not be allowed (para. 2.33.1).

We fundamentally disagree with a regulatory settlement that means we bear the risks associated with third party costs, let alone a regulated DNO, based on an ex ante allowance that from the outset is significantly lower than the estimated most likely outturn costs. We therefore consider that Ofgem should allow a further £3.2m of 132kV cable supply and installation costs, and £5m of WPD risk.

It is not acceptable to conclude that because 1) there is uncertainty over costs, 2) some works are yet to be tendered, and 3) control of WPD costs is limited, that allowances should be rejected. This is somewhat counterintuitive. The works are demonstrably required, and these will naturally have an element of risk. This risk needs to be recognised, identified and funded appropriately rather than dismissed. Failing to fund risk creates an unwelcome precedent and additional regulatory risk.

The inclusion of these risks in the risk register is designed to provide a reasonable and cost effective approach to managing potential changes to estimated base costs. This is especially the case given the experience of increasing WPD costs since the original Project Assessment submission in November 2018. It is unreasonable to disallow these costs and to expect us to carry estimating uncertainty risk.

Known tender costs should be funded in full. Two approaches to treating the uncertain costs are possible:

- **Fund upfront on basis of P50:** Allowing the P50 value would represent good value to the consumer, as it would ensure that we are correctly funded for the works and, consistent with good regulatory practice, retain a strong incentive to manage the WPD works to ensure that the P50 value is not exceeded.
- **Fund later when certainty is greater:** An alternative approach would be to set the allowances once the costs are more certain.

However, it is not appropriate to not fund costs at all simply because they are uncertain.

Firmness of costs

Whilst some works are not tendered, and are therefore inherently subject to some degree of uncertainty, we consider the P50 estimate provided in the submission to be robust. We have already advised Ofgem of cost increases in the following areas:

- Costs arising due to contamination at the Crooks Marsh landfill site, which Ofgem is minded to fund;
- Tender costs for the G Route 132kV cables, which are substantially higher than the base costs in the estimate – these are not mentioned in the consultation and we therefore assume that Ofgem is not currently minded to fund them.

Although we consider the estimate to be subject to the possibility of further increases, the estimate is now relatively stable. More than half of the total base costs are not awaiting tender, and over a third of the estimated costs are already spent.

Contracts have been awarded for just under half of the work that is to be tendered (as measured by value – 45%). Approximately £4m of works at Churchill substation and associated works are substantially completed.

The scope of those works awaiting tender is relatively fixed (e.g. the general routeing, length etc. of cables is fixed by the design process that was necessary to seek DCO planning permission for the works). The estimating uncertainty is over quantities and rates, which will vary between contractors based on market conditions. For example, the cable specification may change due to ground conditions to achieve the desired rating, or the route may alter slightly to avoid significant obstructions only identified in the detailed ground investigations.

22% of the works in the base costs will not be subject to tender. The largest component of these works (£5m) is a portfolio of low materiality works to be carried out in-house by WPD in accordance with its normal practices. The remainder is allocated to WPD/Surf project management, site supervision, legal and land costs. Therefore, allowing a P50 upfront allowance would not expose consumers to significant risk.

Commercial arrangements

Ofgem states at 2.35.2 that WPD “will be fully funded for all its associated costs” and that we therefore “may have a limited ability to influence WPD’s behaviour (i.e. keep costs down)”. This is not correct, as the agreements allow us to influence the management costs, and expenditure will only be funded where they are demonstrably reasonable. Because of the interactivity of the complex construction programmes, it is also possible that activities or delays in National Grid work packages could cause increases or decreases in WPD costs and vice versa.

The arrangements with WPD follow normal business practice for diverting assets of other regulated infrastructure owners, which typically expect the party requiring the works to fully meet the costs of the party that needs to carry out the works (e.g. it is a similar arrangement to the Non-Trading Rechargeable arrangements, as defined by paragraphs ES2 and ES3 of Charge Restriction Condition 15 of the electricity distribution licences). As a regulated entity, with a duty to develop and maintain an efficient, coordinated and economical system of electricity distribution, the DNO costs are managed and charged on the same basis as when it undertakes works for its own network for its own purpose. It is required under its licence to set charges to recover its reasonable costs.

The agreements in place with WPD (and Surf Telecoms, a wholly owned subsidiary of WPD) commit us to paying WPD and Surf's reasonable costs and expenses related to the Hinkley-Seabank project. The principle of the indemnity is that WPD, Surf and their customers are held cost neutral – i.e. no betterment or detriment – as a result of the loss of the F route 132kV OHL and the consequent reconfiguration of the network. The agreements also set out the expected scope of works, the anticipated programme and arrangements for how the parties will work together.

Ofgem appears to imply that other arrangements, requiring WPD to perform to a fixed price, could have been agreed. Such arrangements were considered but discounted. WPD did not consider such an arrangement and the risks they would then take was appropriate given the project was not driven by or of benefit to them. There was a need to secure an agreement with WPD to ensure co-operation in the DCO design process because, without their agreement to the removal of the F route and input, it would not have been possible to progress the scheme to consent in accordance with the contractual timetable. It was not in our power to impose any particular arrangement on another licence holder for removal of its assets and consequent works to its network.

Even had WPD been prepared to agree to an incentivised or fixed price arrangement, a much greater lump sum price would have been expected for the works to manage any risk of overspend. This, rather than reimbursement of actual costs, would not be in the interests of consumers, and would have made evidencing the efficiency of the costs through the SWW process more challenging. Such an arrangement would also have been contrary to the principle of cost neutrality, as it would have presented a commercial opportunity as well as a risk.

We have previously expressed concern to Ofgem that the commercial arrangements, in combination with Ofgem's proposed disallowances, expose us to the risk of WPD underperformance to significant extent. We have been working to reach a regulatory treatment for these costs that recognises the limited control that National Grid has over WPD, whilst maintaining an incentive on us to manage WPD to the extent possible.

At the Final Needs Case stage, we suggested an amended COAE threshold for these work packages. More recently, prior to the decision to revert to the SWW delivery model, we had discussion with Ofgem around alternative regulatory treatments such as a lower sharing factor, or delaying confirmation of allowances once tendering was complete.

We do not consider Ofgem's current proposal to significantly reduce the P50 estimate and fund it ex ante with no limit on exposure to overspend is acceptable, as it would require outperformance of £8m to ensure that we are not in a loss position. We are therefore content that the evidence supports providing an ex ante allowance consistent with the latest forecast of costs with an appropriate contingency set at P50.

Alternatively, if Ofgem has concerns over the firmness of the costs, it would be possible to set the allowances once the costs are more certain. This could be a mechanism to review that the costs are 'reasonable'. There is a precedent for this on the Dorset Visual Impact Provision (VIP) funding allowance. However, given the relatively low materiality weighed against the costs of running such a process, we believe a contingency set on P50 would be the most economic arrangement for end consumers.

Cost disallowances

Ofgem is minded to disallow £3.2m of WPD base costs because of a benchmarking exercise. The consultation document does not give further detail on the precise reasons for this disallowance, but based on previous discussions we understand this relates to 132kV cable supply and installation

costs. We have already shown Ofgem how its benchmarking analysis was flawed, and it is therefore unacceptable to disallow costs on this basis.

The projects benchmarked by Ofgem are generally not appropriate comparators to the WPD 132kV works on the Hinkley-Seabank project. The cable systems of the benchmark schemes – mostly OFTO projects – generally include much smaller cable sizes and ratings than the proposed WPD works. This is the case for all schemes for which information on cable size and capacity is in the public domain. This would generally suggest much lower costs on a £/km basis (due to the need for less metal, cheaper transport etc.).

Ofgem's analysis also did not properly account for the effect of short cable runs to the £/km unit cost, due to the fixed costs of assets such as cable sealing ends. Ofgem's approach made a minor correction for this – the £/km rate was increased by approximately 20% for cables under 1km long – but significantly underestimated the effect at very short distances.

To support our forthcoming RIIO-T2 submission, we commissioned TNEI to provide an independent external benchmarking report, which includes a range of prices for short length substation cross site cables associated with transformers works. These rates are substantially higher than Ofgem's benchmarks and the WPD costs. Although these rates allow for methodologies used within substations, this further illustrates the impact of fixed costs on short lengths.

A significant flaw in Ofgem's approach is that the largest of the 132kV cable schemes, which accounts for more than half of the total 132kV cable costs, has already been market-tested by a WPD tender. As previously advised to Ofgem, the market price of these works is in fact £1.9m higher than the estimate provided with the Project Assessment submission. We therefore consider that the submitted costs are in fact an underestimate of the true costs, and that the allowance for 132kV cables should be increased by the additional value of the tendered works, rather than reduced. Failure to fund market-tested costs would be unacceptable.

Contingency disallowance

Ofgem proposes to disallow approximately £5m of contingency relating to the WPD works. In addition to the point addressed above on commercial arrangements with WPD, this is because Ofgem does not consider that we 'should be funded for uncertainty over costs which, because of the uncertain scope of works, are as likely to be too high as they are to be too low' (para. 2.33.1).

Ofgem's unwillingness to allow for a risk margin on costs that are uncertain is counterintuitive. It is precisely because of uncertainty in estimates that contingency is required: the more certain the costs, the lower the contingency allowance needs to be. It is also not true to say that it is as likely that the estimates are too high as too low. This would only be the case if a P50 contingency margin is allowed in full. Possible decreases in costs are allowed for in the quantification of the risks in question, by using a negative minimum value in the quantification.

Ofgem also implies that there is a link between the disallowance of the estimating uncertainty risk and the commercial arrangements we entered into to pay WPD demonstrably reasonable costs. We have explained above why this arrangement was necessary and in the interests of consumers. However, to the extent that Ofgem considers that we took the wrong approach to the commercial agreement, it is not appropriate to disallow estimating uncertainty risk to seemingly 'punish' us for entering into these arrangements. Allowing these risks would still mean that we are exposed to the risk of WPD overspends beyond the P50 value. The risks would still exist irrespective of the commercial arrangements in place.

Project management costs

Direct costs

At para. 2.42, Ofgem proposes that the peak resourcing profile is adjusted, resulting in a £2.2m reduction in direct project management staff costs. Ofgem proposes that the number of Lead Project Managers, Project Engineers, Project Planners and External Affairs staff are reduced.

The requested staff costs are proportionate and necessary to deliver the project, which is a complex portfolio of main works contracts, delivered under a DCO with many additional requirements to a conventional capex scheme. It will also be necessary to manage contracts for landscaping, communications, reactors / transformers, operational telecoms, environmental clerks of works and land agents. The overall project management costs are in the expected range for such a project – for example, the costs are comparable to those allowed by Ofgem in the recent NGGT Feeder 9 Gas Pipeline project decision. It is therefore unreasonable to disallow these costs.

Indirect costs

Ofgem acknowledges at 2.43 that *“the use of central function (indirect) resources usually presents a cost efficient measure for large infrastructure projects”* but considers there to be *“inefficient resource duplication”* in Project Controls, Contracts Management and Health and Safety staff. Ofgem therefore proposes to disallow £8.7m of these costs.

Our estimate already assumed a much lower apportionment for indirectly allocated central support functions than for a typical project. This is because more staff are directly estimated due to the size and strategic importance of the project. Approximately half of the usual rate was used. Ofgem’s proposal represents a reduction of approximately 40% on the estimated central function costs, which would significantly compromise our ability to manage the project.

Ofgem’s approach is arbitrary and no evidence has been provided of the resource duplication referred to in the consultation document. Ofgem suggests that there is overlap between activities based solely on the fact that we use both direct and indirect allocation of the necessary support functions. We demonstrated during Ofgem’s assessment process that there was no duplication of resources.

Ofgem’s approach would mean that central functions critical to the delivery of the project would not be funded, in areas such as Audit, Assurance, Project Controls, Systems Management, Portfolio Reporting, Contracts Management support, Training, and Operational and Occupational Safety. Ofgem’s proposed reduction would therefore increase the risk that the project cannot be delivered safely to cost and programme.

Ofgem also considers that estimated taxation costs are *“not justified because the number of employees underpinning the estimates are high”*. We have now carried out a more detailed forecast of this liability and consider that a higher value than Ofgem proposes to allow is justified.

Overall, our submitted project management costs are reasonable and necessary to deliver the project safely, economically and efficiently in the interests of consumers. Reductions in the allowances would impact on essential project management activities and would therefore create additional project risks.

Contingency

Ofgem proposes to allow £33.2m of the total P50 contingency (excluding the unfunded qualifying risks discussed above). However, Ofgem confirms at para. 2.32 that it is:

“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.”

Approximately £3m of the £12m referred to by Ofgem relates to risks that have been removed or reduced with our agreement, following review of the project risk registers during Ofgem’s assessment as time had passed. Ofgem also refers to risks related to ‘NGET error’, which are in fact related to the ‘standalone’ pricing required by the CPM (i.e. the project could not be cross-subsidised by RIIO portfolio activities). These risks amount to approximately £1m. Assuming SWW is now to be used to deliver the project, these risks can also be removed.

However, Ofgem’s reasoning for removing the remaining risks is incorrect. £4.5m of the proposed disallowed risks relates to the WPD costs discussed above, which we consider is wrong for the reasons already explained.

There are two main groups amongst the other risks:

- Risks relating to uncertain land costs, that cannot be finalised until later in, or after, the construction phase (£3.1m); and
- Risks related to contractor costs for National Grid schemes to be tendered later in the construction programme - Melksham reconfiguration, Bridgwater Tee, Seabank substation (£0.7m, excluding WPD contractor costs).

Land costs risks

Ofgem argues that these risks are covered elsewhere in the capital costs (i.e. included in contracts). This is specifically not the case for these risks and there appears to be a misunderstanding over the approach we have taken. We have intentionally excluded these items from the base costs to efficiently manage uncertainty. This was discussed with Ofgem prior to our Project Assessment submission.

For example, for the ‘Land reinstatement’ risk, Ofgem concludes that the baseline allowance “covers funding for landscaping, and land reinstatement costs included comprehensively in contracts” (Table 2.2). However, the landscaping costs in the base estimate are for a fixed scope to meet specific DCO landscaping requirements, with a market-tested price, and undertaken by a separate contractor to the main works contractors. The land reinstatement risk is not related to landscaping at all. It covers works by the contractors to return land back to its original condition, to satisfy DCO requirements and to the satisfaction of the landowner under the land agreements. The work required will be uncertain until the final phase of the project. Land reinstatement can be a costly and time-consuming process, with the costs subject to uncertainty. It therefore would not be efficient for contractors to price fully for this in contracts, and it is legitimate to include possible further costs as a risk.

Following the award of contracts for the main works, additional costs are already being incurred in these areas (e.g. different land take and compensation requirements), demonstrating the requirement for funding these risks. It is therefore unreasonable and unjustified not to allow contingency for these risks.

Contractor risks

The risk attached to estimated contract prices for unlet scope is an important part of an efficient estimating process. In preparing an estimate, our base costs only include elements with a high degree of certainty (e.g. basic substation design, quantities etc.). This base cost is then subject to market-testing through a tender process. The successful contractor will then carry out a detailed design and surveys. Where works are uncertain or some costs have a lower probability of occurring, we exclude them from the base estimate and add them to the risk register, which produces a probabilistic factored risk value that reflects the uncertainty. This results in a lower estimated cost than adding these uncertain costs into the base costs.

Ofgem's proposal to exclude contractor risk would penalise us for seeking to manage costs efficiently rather than risk-load the estimate with higher costs. We are not strictly seeking to recover costs for these risks in the requested contingency, as they form part of our estimated contract cost for the works yet to be tendered, and our expectation was that they would form part of the base cost allowances for Melksham reconfiguration, Bridgwater Tee and Seabank substation. However, we note they are not covered. We believe this may be an error on Ofgem's part, as during discussions prior to the consultation we were led to believe this would be the approach.

Overall

Ofgem's proposed £33.2m allowance risk would represent an £11.3m reduction against the current P50 value of the risks (excluding unfunded qualifying risks), which would be a significant underestimate. Our risk modelling shows that, at this value, there is only a 6% chance of not exceeding the upfront contingency, which means we are exposed to a significant risk of overspend. In combination with the treatment for the unfunded qualifying risks, this is a fundamentally unacceptable approach.